

AMERICAN ORNITHOLOGY.

AMERICAN ORNITHOLOGY
OR THE
NATURAL HISTORY
OF
THE BIRDS OF THE UNITED STATES.

BY ALEXANDER WILSON,
AND CHARLES LUCIAN BONAPARTE.

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IN FOUR VOLUMES.

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NOTICE.

ON presenting to the English reader, through the medium of a popular periodical, the first European edition of a work of which America has just cause to be proud, the publishers have a few words of explanation to offer regarding the improvements they have adopted.

It will be seen, from the Memoir of Wilson in the present volume, that his portion of the *American Ornithology* consists of nine volumes quarto, the descriptive part of the concluding volume having been drawn up by Mr George Ord, of Philadelphia. In 1825, Mr Ord was again employed to prepare new editions of the seventh, eighth, and ninth volumes, and made considerable additions : in 1828, three supplementary volumes, by Charles Lucian Bonaparte,* appeared.

The present edition will comprise not merely the whole of Wilson's work, including the improve-

* Prince of Musignano, son of Lucien Bonaparte, the brother of Napoleon.

ments of Mr Ord, but also the continuation of Bonaparte, and will still farther be enhanced in value by the revisal of the whole, and its arrangement, in a scientific manner, by Professor Jameson. This arrangement will not only render the work of more easy reference than the original edition,—which, from its irregular mode of publication, was never arranged,—but will also, it is hoped, ensure its being used as an ornithological text book in our universities, and also in our schools. Hitherto, no companion or guide has been published to the beautiful collection of American birds in the museum of the University of Edinburgh: the present work will be found to answer the purpose, both on account of its scientific form, and the constant reference, by the editor, to the birds of the New World, preserved in that splendid cabinet of natural history.

It remains only to be added, that the notices of the Turkey Vulture, p. 3, the Black Vulture, p. 10, the Great-Footed Hawk, p. 51, and the Raven, p. 231, having been transferred from the ninth volume of Wilson, are consequently written by Mr Ord. Other articles of his are pointed out where they occur in the course of the work.

EDINBURGH, *April*, 1831.

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MEMOIR

OF

ALEXANDER WILSON.

ALEXANDER WILSON, author of *American Ornithology*, was born in Paisley, on the 6th July, 1766. His father was a man of sober and industrious habits, of strict honesty, and superior intelligence; highly respected by all who knew him, throughout a very long life. It appears to have been the father's intention to give his son a liberal education, with the hope, so dear to the heart of the Scottish peasant, of seeing him at some future period honoured in being appointed to preach the gospel of peace. To this Wilson himself alludes, in a poem, entitled the "Solitary Tutor," written in America, and evidently descriptive of himself:—

His parents saw, with partial, fond delight,
Unfolding genius crown their fostering care,
And talk'd with tears of that enrapturing sight,
When, clad in sable gown, with solemn air,
The walls of God's own house should echo back his prayer.

Whether his early years displayed such evident marks of genius as to justify anticipations of future eminence, cannot now be certainly known: nor is it necessary that it should, to account for his father's intentions. While the heart of every parent inclines him to judge favourably of his own child, the devout Scottish peasant can form no higher prospect, and conceive no greater recompense

for all his own privations, than to see the son of his affection become the messenger of Heaven.

Unfortunately for Wilson, his mother died when he was about ten years old, leaving his father embarrassed with the charge of a young family, to minister to the wants of which, the heart and the habits, the tenderness and the enduring patience of woman alone are adequate. In the higher and wealthier ranks, female aid may be procured; but, in humble life, nothing can be more deplorably desolate than the condition of a young motherless family. It is, therefore, almost a matter of absolute necessity for the poor man to seek the aid of a second wife; though the result of doing so is usually the burden of an additional family. Wilson's father soon married again; and all his son's prospects of a liberal education were speedily overcast. What progress he had made cannot now be discovered; though, from the statements of his early friends, and the incorrectness of his first productions, it may be inferred, that his attainments were only limited. The bias, however, had been given; a taste for literature had been communicated, by which the whole of his after life was more or less characterized. Of this he was himself aware, as appears by his letters to his father, written from America, after his perseverance had won for him that rich reward, for which alone he toiled,—honest, independent fame. In a letter, dated 25th Feb. 1811, the following passage occurs:—"The publication of the *Ornithology*, though it has swallowed up all the little I have saved, has procured me the honour of many friends, eminent in this country, and the esteem of the public at large, for which I have to thank the goodness of a kind father, whose attention to my education in early life, as well as the books then put into my hands, first gave my mind a bias towards relishing the paths of literature, and the charms and magnificence of nature. These, it is true, particularly the latter, have made me a wanderer in

life ; but they have also enabled me to support an honest and respectable situation in the world, and have been the sources of almost all my enjoyments."

The American biographer states, that the unkind usage of Wilson's stepmother drove him to forsake his paternal roof, and to seek an asylum in that of his brother-in-law, William Duncan. This is altogether incorrect. Those who had the means of knowing the truth, agree that she always treated him with kindness and attention ; and Wilson himself uniformly spoke of her with respect and gratitude. That he did reside in the house of William Duncan is true ; but it was during the term of his apprenticeship, when, if not a matter of absolute necessity, it was at least one of mutual convenience. The wandering habits of his earlier years have also been attributed to the harsh treatment experienced at home ; but while these may be sufficiently accounted for otherwise, — as will appear in the course of our narrative, — it is due to the memory of a deserving woman to rescue her from so groundless an imputation.

In his thirteenth year, on the 31st July, 1779, Wilson was bound apprentice, as a weaver, to William Duncan, who had married his eldest sister. The duration of his apprenticeship was three years, not five, as has been erroneously stated. The original indenture bears date as above, and has at the end the following lines in his own handwriting : —

Be't kent to a' the warld in rhyme,
That wi' right mickle wark an' toil,
For three lang years I've ser't my time,
Whiles feasted wi' the hazel oil.

Agst. 1782.

These lines shew that he had completed his apprenticeship in 1782, after serving three years ; and they likewise shew, that he had, even then, in his sixteenth year, notwithstanding the very unpoetical nature of his profession,

already tried his skill in the composition of verses; and that, however closely his mechanical occupation employed him, he had a strong inclination to more imaginative feelings and pursuits, not at all likely to reconcile him to his humble avocation. Yet he continued working as a journeyman-weaver for about four years; during which time he resided partly in Paisley, partly with his father, who had gone to the village of Lochwinnoch, and finally with his brother-in-law, Duncan, then removed to Queensferry. During these four years, however, being comparatively left to his own direction, his poetical talents were more freely indulged; his dislike to the loom increased, and his mind became more fully possessed with that spirit of restlessness, which, not finding sufficient scope in Britain, in the end impelled him to explore the boundless forests of the New World.

Nearly two years of that period were spent at Lochwinnoch, and many of his earlier poems were then composed, particularly those of a descriptive character. But the rambles which gave rise to these efforts of his muse, while they increased his relish for the beauties of natural scenery, rendered his sedentary employment more and more irksome, and prepared him to abandon it, upon the first prospect of more congenial pursuits. In a poem, written about this time, entitled, "Groans from the Loom," after painting, in a strain of ludicrous complaint, half in jest, half in earnest, the miseries of his condition, the following exclamation occurs, wrung from him probably by an instinctive aversion to confinement, and almost prophetic of his future wanderings:—

Good gods ! shall a mortal with *legs*,
So low uncomplaining be brought!

These sentiments, together with the expanded views, cultivated taste, and refined ideas, resulting from the perusal of what books he could procure, all tended to the same conclusion,—a growing disgust with the trade of a weaver,

and a desire to exchange it for any other which promised greater freedom from personal restraint, and more intercourse with the charms of nature. He thus speaks of his feelings and habits about this time :—

Here oft beneath the shade I lonely stray,
When morning opes, or evening shuts the day ;
Or when more black than night stern fate appears,
With all her train of pale, despairing fears,
The winding walk, the solitary wood,
The uncouth grotto, melancholy, rude ;
My refuge there, the attending muse to call,
Or in Pope's lofty page to lose them all.

Such feelings and habits must give the mind an increase of both refinement and elevation ; but it may be questioned, if they are equally adapted to promote happiness, because the culture necessary to qualify for enjoyments of a high and refined order, must always be attended with pain and privation, as it unfits for all the more ordinary gratifications, before those of a congenial nature can be attained. With the young rustic poet, this is peculiarly the case : he is like a butterfly, which some untimely smiles of spring have induced to cast aside the protection of its chrysalis envelopment, and left exposed to every chilling storm ; clad more elegantly, indeed, but much less securely defended.

During this transition-state of the rustic poet, it is not surprising that he should frequently sink into fits of deep melancholy, perchance of darkest despondency ; or that the sick heart should sometimes try to escape from the pangs of its own morbid sensibility, by plunging into mirth, revelry, and dissipation. Into this too common error Wilson never fell. Though his letters to his friends, written about this period, are filled with the most desponding language, there is abundant evidence that he was not, even in the slightest degree, given to dissipation. The utmost that could be charged against him

was, a growing dislike to the confinement of his occupation ; or, in the harsh language of some, an increasing tendency to idleness. It was about this time that his first public attempts as a poet, were made ; several of his short pieces occasionally appearing in the *Glasgow Advertiser*. These speedily attracted the notice of his townsmen, and became " the nightly subjects of discussion, in the clubs and bookshops of Paisley." This, probably, contributed not a little towards encouraging him to the next step which he took, and which forms an era in his life.

His brother-in-law, William Duncan, had gone to reside at Queensferry, whither Wilson followed him, and continued for some time to work at his trade with his former master. With a view to better his circumstances, Duncan resolved to make an excursion throughout the eastern districts of Scotland as a pedlar ; and in this he was accompanied by Wilson, now in his twentieth year.

The loom was now completely abandoned ; and, for a period of nearly three years, he seems to have led the life of a wandering pedlar. But the feeling of release from the toilsome loom, at first so delightful to one rapturously fond of the beauties of nature, soon began to subside, permitting him to estimate more truly the difficulties, fatigues, and, above all, the degradation of his new employment. He had now, however, a great deal more leisure for reading, writing, and indulging in a species of dreamy meditation, not less pleasant, and occasionally scarcely less beneficial, than either. It besides furnished him with opportunities of studying men and manners, to an extent scarcely otherwise attainable : and, if it was often attended by disagreeable circumstances, it had its advantages, — it enabled him to visit all the classic ground of Scottish song and story, and to trace the scenes hallowed by the birth or residence of glorious chief, or still more glorious poet. " I can yet remember," says one of his biographers, who was also his personal friend, " with

what warmth of enthusiasm he informed me that, in one of his journeys, he went considerably out of his way to visit the village of Athelstaneford, at one time the residence of Blair, author of *The Grave*, and afterwards of Home, author of *Douglas*." This proves his veneration for the sons of song and their consecrated haunts. And his admiration of natural scenery cannot be better shewn than by quoting the strongly contemptuous expressions he applied to those who are not susceptible of the pleasures arising from contemplating the beauties of nature :—"Pleasures," says he, "which the grovelling sons of interest, and the grubs of this world, know as little of, and are as incapable of enjoying, as those miserable spirits, who are doomed to perpetual darkness, can the glorious regions and eternal delights of paradise!"

During these years of comparative idleness, his poetical talent, as might have been expected, was not permitted to remain uncultivated. Many of his published poems, by their dates and incidents, furnish evidence that they were the composition of that period: and at length, in 1789, he began to prepare materials for a volume of poems. After submitting his manuscript to the private criticism of some friends, (to whose suggestions, however, like most young poets, he was far from being inclined to yield implicit deference,—whose approbation, in short, not their opinion, it was that he wanted,) he contracted with Mr John Neilson, printer in Paisley, for the expenses of the press; and set out afresh with his pack and a prospectus, in order to procure subscribers. On the 17th September, 1789, he proceeded from Edinburgh, along the east coast of Scotland, to sell his muslins and solicit subscriptions, making the one the means and the other the end. His hopes and purposes cannot be better shewn than by transcribing a portion from a journal which he kept during this excursion; and which commences as follows, in a mingled strain between jest and earnest:—

“ As youth is the most favourable time to establish a man's good fortune in the world, and as his success in life depends, in a great measure, on his prudent endeavours, and unwearied perseverance, I have resolved to make one bold push for the united interests of pack and poems. Nor can any one justly blame me for it, since experience has now convinced me, that the merit I am possessed of (which is certainly considerable) might lie for ever buried in obscurity, without such an attempt. I have, therefore, fitted up a proper budget, consisting of silks, muslins, prints, &c. for the accommodation of those good people who may prove my customers,—a sufficient quantity of proposals for my poetical friends ; and, to prevent those tedious harangues, which otherwise I would be obliged to deliver at every threshold, I have, according to the custom of the most polite pedlars, committed the contents of my pack to a handbill, though in a style somewhat remote from any I have yet seen : —

ADVERTISEMENT EXTRAORDINARY.

Fair ladies, I pray, for one moment to stay,
 Until with submission I tell you,
 What muslins so curious, for uses so various,
 A poet has here brought to sell you.

Here's handkerchiefs charming ; book-muslins like ermine,
 Brocaded, striped, corded, and check'd ;
 Sweet Venus, they say, on Cupid's birth-day,
 In British-made muslins was deck'd.


If these can't content ye, here's muslins in plenty,
 From one shilling up to a dozen,
 That Juno might wear, and more beauteous appear,
 When she means the old Thunderer to cozen.

Here are fine jaconets, of numberless sets,
 With spotted and sprigged festoons ;
 And lovely tambours, with elegant flowers,
 For bonnets, cloaks, aprons, or gowns.

Now, ye Fair, if ye choose any piece to peruse,
With pleasure I'll instantly shew it :
If the Pedlar should fail to be favour'd with sale,
Then I hope you'll encourage the Poet."

• Did our limits permit, we would willingly transcribe other passages from the above-mentioned journal, because it is not less faithful as a picture of his mind and feelings, than as a description of his wanderings. There breathes through it an indignant spirit of independence—a detestation of every thing mean and selfish,—and a proud scorn of what he considered the overweening insolence of the wealthy and the vain. In his main object, however, which was evidently to procure subscribers for his poems, Wilson was almost totally disappointed, though he did not fail to study deeply the living page of man. We cannot resist the inclination to quote the conclusion of his journal, in which he thus sums up his toils and his gains : —

“ I have this day, I believe, measured the height of an hundred stairs, and explored the recesses of twice that number of miserable habitations ; and what have I gained by it ?—only two shillings of worldly pelf ! but an invaluable treasure of observation. In this elegant dome, wrapt up in glittering silks, and stretched on the downy sofa, recline the fair daughters of wealth and indolence : the ample mirror, flowery floor, and magnificent couch, their surrounding attendants ; while, suspended in his wiry habitation above, the shrill-piped canary warbles to enchanting echoes. Within the confines of that sickly hovel, hung round with squadrons of his brother artists, the pale-faced weaver plies the resounding lay, or lanches the melancholy murmuring shuttle. Lifting this simple latch, and stooping for entrance to the miserable hut, here sits poverty and ever-moaning disease, clothed in lunghill rags, and ever shivering over the fireless chimney.



Ascending this stair, the voice of joy bursts on my ear, — the bridegroom and bride, surrounded by their jocund companions, circle the sparkling glass and humorous joke, or join in the raptures of the noisy dance—the squeaking fiddle breaking through the general uproar in sudden intervals, while the sounding floor groans beneath its unruly load. Leaving these happy mortals, and ushering into this silent mansion, a more solemn—a striking object, presents itself to my view. The windows, the furniture, and every thing that could lend one cheerful thought, are hung in solemn white ; and there, stretched pale and lifeless, lies the awful corpse ; while a few weeping friends sit, black and solitary, near the breathless clay. In this other place, the fearless sons of Bacchus extend their brazen throats, in shouts like bursting thunder, to the praise of their gorgeous chief. Opening this door, the lonely matron explores, for consolation, her Bible : and, in this house, the wife brawls, the children shriek, and the poor husband bids me depart, lest his termagant's fury should vent itself on me. In short, such an inconceivable variety daily occurs to my observation in real life, that would, were they moralized upon, convey more maxims of wisdom, and give a juster knowledge of mankind, than whole volumes of *Lives and Adventures*, that perhaps never had a being, except in the prolific brains of their fantastic authors."

This, it must be acknowledged, is a somewhat prolix and overstrained summing up of his observations ; but it proves Wilson to have been, at the early age of twenty-three, a man of great penetration, and strong native sense ; and shews that his mental culture had been much greater than might have been expected from his limited opportunities. At a subsequent period, he retraced his steps, taking with him copies of his poems, to distribute among subscribers, and endeavour to promote a more extensive circulation. Of this excursion also he has given an account in his

journal, from which it appears that his success was far from encouraging. Among amusing incidents, sketches of character, occasional sound and intelligent remarks upon the manners and prospects of the various classes of society into which he found his way, there are not a few severe expressions indicative of deep disappointment, and some that merely hint the keener pangs of wounded pride—pride founded on conscious merit. “You,” says he, on one occasion, “you, whose souls are susceptible of the finest feelings, who are elevated to rapture with the least dawns of hope, and sunk into despondency by the slightest thwarting of your expectations—think what I felt!” Much, probably, of his disappointment may be attributed to the very questionable, the almost vagrant character, in which he appeared,—that of a travelling pedlar. Of this he seems ultimately to have become convinced; for, in a letter to a friend, dated from Edinburgh, in November of the same year, he says, “My occupation is greatly against my success in collecting subscribers. A *packman* is a character which none esteem, and almost every one despises. The idea which people of all ranks entertain of them is, that they are mean-spirited, loquacious liars, cunning and illiterate, watching every opportunity, and using every mean art within their power, to cheat.” The same sentiment repeatedly occurs in his poems.

Having in vain used his utmost exertions to dispose of his poems, and being completely disgusted with the life of a pedlar, he returned to Paisley; and, in a short time afterwards, we find him again plying his original trade in Lochwinnoch. But it is evident, that he was far from being satisfied with his employment, or sincere in relinquishing poetry. Indeed, it may be questioned whether any man who has ever experienced the true poetic thrill could, even if he would, seal up his bosom against its rapturous visitations. Be that as it may, Wilson was

perfectly ready to avail himself of the first favourable opportunity of again appearing before the public, in the character of a poet. The occasion which led to it was this :—

A certain portion of the Edinburgh *literati* had formed a kind of public debating society, called the Forum, the meetings of which were held in the Pantheon. Among other questions proposed for discussion was this, “Whether have the exertions of Allan Ramsay or Robert Fergusson done more honour to Scottish poetry?” Information of this was communicated to Wilson by a friend in Edinburgh. Immediately he kindled at the idea of making a public appearance in a manner so congenial to his love of fame; and, though unacquainted with the poems of Fergusson, and having but a fortnight for preparation, he borrowed a copy from a friend, read it, formed his opinion, laboured with redoubled perseverance for money to defray the expense of his journey, composed a poem on the subject, and arrived in Edinburgh in time to bear his part in the discussion. This poem, “The Laurel Disputed,” is of considerable length, and though disfigured with occasional coarseness, is distinguished by a certain rough, easy vigour, which marks it the production of a man of more mental power than polish,—one who thought strongly, and cared not much in what sort of language his thoughts were couched, so that they were understood. In it he gives the laurel to Fergusson,—a decision to which the audience did not assent, but in which, nevertheless, we think his judgment was perfectly correct, so far at least as regards the superiority in real genius. So miserably deficient, in point of true poetic merit, are almost all of Ramsay’s miscellaneous poems, that we cannot help considering *The Gentle Shepherd* as little more than a “lucky hit;” nor is there any thing to invalidate this opinion, in those pieces of frigidity and affectation, which he gave to the world, in his *Tea-*

table Miscellany, as improved versions of our old coarse, but vigorous traditionary songs and ballads. Fergusson, on the other hand, never sinks beneath the regions of poetic inspiration, and frequently takes the heart by surprise with a sudden gush of fervent and tender feeling. — But we must break away from this seductive topic.

Wilson remained long enough in Edinburgh to compose and recite in public two other poetical essays, and to publish (1791) “*The Laurel Disputed*,” then returned to Lochwinnoch, with some increase of fame, but none of wealth. It appears, however, that he at that time formed some literary connections in Edinburgh, which might have been of advantage; for we find him contributing to the *Bee*, a periodical work, conducted by the late Dr Anderson, one of the fathers of modern Scottish literature. It is probable that his unsettled circumstances may have been the chief reason why he failed to profit by that favourable opening, as the Doctor’s benevolence was unlimited, and his influence at that time considerable.

An intimacy still more congenial promised about this period to commence,—one which would probably have been close and permanent, but for the rapidly approaching crisis in Wilson’s destiny,—we mean an intimacy with Burns. By the kindness of a valued friend,* to whom we are indebted for many interesting communications concerning Wilson, we were put in possession of the following anecdote; — “Shortly after the publication of Burns’s poems, Wilson wrote to him, objecting to certain of them, on account of their improper tendency. At this time the two poets were quite unacquainted. Burns returned for answer, that he was so much accustomed to communications of that

* P. A. Ramsay, Esq. Paisley, a gentleman to whom we beg to tender our warmest acknowledgments for the ready zeal with which he entered into, and prosecuted, those researches concerning the subject of this memoir, from which we ourselves were unavoidably precluded.

description, that he usually paid no attention to them ; but that, as Wilson was evidently no ordinary man, and also a true poet, he would, in that instance, depart from the rule ; and he then entered into a vindication of himself and his poems. Shortly afterwards, Wilson went from Paisley to Ayrshire to visit Burns. On his return he described his interview with Burns in the most rapturous terms." *

The poem of " Watty and Meg," his most successful effort, was written early in 1792. Being published anonymously, it was universally attributed to Burns. Wilson felt this as at once a high compliment, and an unconscious acknowledgment of his merit, on the part of a public, which had shewn him so little countenance in his avowed productions ; and, for a time, he allowed the opinion to spread uncontradicted. " The originals of Watty and Meg," says the same gentleman who communicated the preceding anecdote, " were a worthy couple of Wilson's acquaintance. When the good dame, represented as *Meg*, read the poem, she exclaimed to her husband, ' D'ye ken what Sandy Wilson has done ?—he has *poem'd* us ! ' "

The perception of the ludicrous generally accompanies the perception of the sublime. In like manner, a satirical tendency is not unfrequently found conjoined with great generosity and tenderness. Of this spirit Wilson partook to a certain extent ; and in hours of thoughtless and exuberant glee, occasionally indulged it for the amusement of his friends. Some, however, of darker spirit, as is generally believed, instigated Wilson, in an evil hour, to write a piece of severe personal satire against a respectable individual in Paisley, at whose instance he was prosecuted

* Cromeek gives a different version of this incident, and attributes the termination of all intercourse between the two poets to Wilson's envy of Burns. This being shewn to Wilson, by one of his American friends, he rebutted the injurious imputation in the most decided terms.

before the sheriff, imprisoned, and compelled publicly to burn the offensive poem. That, in writing it, he acted as the tool of others, not from any malignant feelings in himself, is evident from his subsequent conduct. Before leaving Paisley for America, he waited on some whom he had satirized, and requested forgiveness for any uneasiness which his writings might have occasioned. Many years afterwards, a short time before his death, he invited his brother David to join him in America. David went accordingly, taking with him copies of all the poet's satirical pieces, which he had carefully collected, thinking, probably, that they would be received as an acceptable present. But Wilson, the instant they were produced, threw them into the fire, saying, "These were the sins of my youth; and, had I taken my good old father's advice, they never would have seen the light."

This unfortunate event seems to have had some effect in slackening the ties which bound Wilson to his native country. There were also other causes at work. The French Revolution was at that time awaking the hopes or the fears of all who saw in it, either the commencement of a new and glorious era of political freedom, or, as it finally proved, of a period of anarchy and bloodshed. Wilson, like many other ardent-minded men, beheld it in the former aspect, and rapturously hailed its appearance. He associated himself with those who entitled themselves the Friends of the People; and, as his conduct had recently given umbrage to those in power, he was marked as a dangerous character. In this condition, foiled in his efforts to acquire a poet's name; depressed by poverty; hated by those who had smarted beneath his lash; and suspected on account of his politics; it is not to be wondered at, that Wilson listened willingly to the flattering accounts regarding America, and speedily resolved to seek that abode of Utopian excellence. This resolution was the more easily adopted, that he had never

yielded to the soft but potent sovereignty of love. In this respect he is almost alone among the warm-hearted sons of song. Rarely does he write of love ; and, when he does, it is like a man who might have thought about it, as about any other interesting mental phenomenon, but had never experienced its subduing power. It is said that he kept up a sort of Platonic attachment and correspondence with a young lady of some rank and accomplishments, but never went beyond the usual language of sentimental courtesies, and laid it easily aside the moment that his mind became fixed on emigration.

Various schemes crossed his mind as to the mode of earning a livelihood in America ; and, among others, one seems to have been, to qualify himself, by a knowledge of writing and arithmetic, for entering into some mercantile occupation. With this view, early in the year 1794, he applied to a friend, who at that time kept a school, to have himself taught these branches of education ; but, after one day's study, departed ; nor, till several months had elapsed, did he return, and then only to bid a final farewell. This sudden change of mind has generally been attributed to his restless instability of purpose ; and brought forward as a parallel to the story which Burns tells of his own mathematical studies. A more correct view of the affair is given by one of his American friends, who must have had it from himself : When he finally determined on emigration, he was not possessed of funds sufficient to pay his passage : In order to surmount that obstacle, he adopted a plan of extreme diligence at the loom, and rigid personal economy ; by which means he amassed the necessary sum. After living for a period of four months, at the rate of *one shilling* per week, he paid farewell visits to several of his most intimate friends, among others, to the above-mentioned teacher, retraced some of his old favourite haunts, and, bidding a last adieu to his native land, set out

on foot for Port-Patrick. Thence he sailed to Belfast in Ireland, and there embarked as a deck-passenger, on board an American ship bound to Newcastle, in the State of Delaware.

He arrived in America on the 14th of July, 1794, with no specific object in view, without a single letter of introduction, and with only a few shillings in his pocket. But every care was forgotten in his transport at finding himself in what he fondly deemed the land of freedom. Impatient to set his foot on the soil of the New World, he landed at Newcastle, and, with his fowling-piece in his hand, directed his course towards Philadelphia, distant about thirty-three miles, highly delighted with the aspect of the country, and the plumage of the birds, to which his attention was strongly directed by what may be termed the instinct of his genius. It is not unworthy of remark, that his first act in America was shooting a bird of the red-headed woodpecker species, as if thus already beginning his career as *the* American Ornithologist.

On arriving at Philadelphia, he made himself known to an expatriated countryman, a copperplate printer, and wrought for a few weeks at this new species of occupation. This, however, he soon relinquished, and resumed the trade of weaving, first at Pennypack, then in Virginia, and again in Pennypack. In the autumn of 1795, he resorted for a short time to his former occupation of pedlar, and traversed a considerable part of the State of New Jersey, meeting with greater success than in Scotland. During this excursion, he kept a diary, as he had formerly done in Scotland, written with great care, and abounding with acute observations on the manners of the people, notices of the principal natural productions, and sketches of the indigenous quadrupeds and birds.

Many and severe as must have been the difficulties with which Wilson had to struggle upon his arrival, his letters to his friends are full of encomiums upon every

will secure you many friends, and support you under your misfortunes ; for, if you live, you must meet with them — they are the lot of life.”

Wilson next changed his residence at Milestown for the village of Bloomfield, New Jersey, where he had not long been, when, about the beginning of the year 1802, he was induced to contract an engagement with the trustees of a seminary in the township of Kingsess, a short distance from Gray's Ferry, on the river Schuylkill, and about four miles from Philadelphia. This was the last and the most fortunate of his migrations ; it was the first step towards that path which was soon destined to lead him to eminence. It placed him in the immediate neighbourhood, and gave him the intimacy, of men capable, both of appreciating his merits, and of lending him encouragement and assistance—of such men as the botanist and naturalist, William Bartram, whose gardens opened to him a field of delightful instruction and enjoyment, and whose lessons and example animated and guided him in the study of nature ; and Mr Lawson, the engraver, from whose instructions he learned to delineate, with the pencil, those beautiful forms, which he so eloquently described with his pen. Mr Bartram, perceiving the bent of his friend's mind, and its congeniality to his own, took peculiar delight in rendering every aid and encouragement, both by his own instructions, and by putting into Wilson's hands some works on natural history, particularly those of Catesby and Edwards. While he perused these works with equal pleasure and attention, he began to detect various errors, such as must always abound in books whose authors rely, to any extent, on the reports of others, without personal investigation.

Wilson's American biographer relates, that, about this time, his mind was subject to moments of deep despondency and depression, which his solitary mode of life tended to confirm. This he attributes to his being

“addicted to the writing of verses, and to music; and that, being of a musing turn of mind, he had given way to those seductive feelings, which the charming scenery of the country, in a susceptible heart, never fails to awaken.”

An anecdote is related of his narrowly escaping from an accidental death by his own gun, during a ramble which he had taken, to relieve his dejected mind; and at the thought of which he himself shuddered, lest it should have subjected his memory to the imputation of suicide. “His friends,” continues the American Biographer, “perceiving the danger of his situation, recommended the renouncing of poetry and the flute, and the substitution of the amusement of drawing in their stead, as being most likely to restore the balance of his mind. For this end sketches of the human figure and landscapes were provided him; but his attempts were so unpromising, that he threw them aside with disgust. Mr Bartram now advised a trial at birds; and being tolerably skilful himself, exhibited his portfolio, which was graced with many specimens from his own hands. The attempt was made, and succeeded beyond the expectation of Mr Wilson or that of his friends. There was a magic in the employment which aroused all the energies of his soul; he saw, as it were, the dayspring of a new creation; and from being the humble follower of his instructors, he was soon qualified to lead the way in the charming art of imitating the works of the GREAT ORIGINAL.”

Now, we will admit, that this is a very pretty specimen of transatlantic magniloquence: and we are ready to accord all due praise to Messrs Bartram and Lawson for their benevolent attentions to our gifted countryman. But we do hold Wilson to have been made of sterner stuff than to have incurred any hazard of falling a victim to that “malady most incident to maids.” We farther conceive, that little danger was to be apprehended from his being *addicted* to “poetry, that loftiest mood of mind.”

and to music, with its "strains, which might create a soul under the ribs of death;" and we would just suggest, that these gentlemen did themselves, at least, as much service as they could do Wilson, in thus acquiring a claim to be connected with his name, and his imperishable reputation. If we allow ourselves to recollect that he was kept in constant thralldom to the drudgeries of a school, depressed by penury, and tasking his powers to their utmost stretch in unremitting study for his own improvement, we may easily account for that bodily lassitude, which occasionally threw a shade of languor and melancholy over his mind. For, when the bodily powers are outworn, there invariably follows a tendency to mental depression; so close is the connection, so intimate the sympathy, between the body and the mind.

Wilson's letters to his nephew, W. Duncan, then residing on a farm, their joint property, in the State of New York shew both the cause of his incessant toil, and the spirit with which he bore it. The following extracts relate to this subject:—

"My dear friend and nephew, I wish you could find a leisure hour in the evening to give the children, particularly Mary, some instruction in reading, and Alexander in writing and accounts. Don't be discouraged though they make but slow progress in both, but persevere a little every evening. I think you can hardly employ an hour at night to better purpose. And make James read every convenient opportunity. If I live to come up beside you, I shall take that burden off your shoulders. Be the constant friend and counsellor of your little colony, to assist them in their difficulties, encourage them in their despondencies, to make them as happy as circumstances will enable you. A mother, brothers, and sisters, in a foreign country, looking up to you as their best friend and supporter, places you in a dignified point of view. The future remembrance of your kind duty to them now, will,

in the hour of your own distress, be as a healing angel of peace to your mind. Do every thing possible to make your house comfortable; fortify the garrison in every point; stop every crevice that may let in that chilling devil, the roaring, blustering northwest; heap up fires big enough for an Indian war-feast; keep the flour-barrel full; bake loaves like Hamles Head;* make the loom thunder, and the pot boil, and your snug little cabin re-echo nothing but sounds of domestic felicity. I will write you the moment I hear of George. I shall do every thing I have said to you, and never lose sight of the 18th of March; for which purpose I shall keep night school this winter, and retain every farthing but what necessity requires—depend upon me. These are the outlines of my plan. If health stand it, all will be well; if not, we cannot help it.”

“ I succeed tolerably well; and seem to gain in the esteem of the people about. I am glad of it, because I hope it will put it in my power to clear the road a little before you, and banish despondence from the heart of my dearest friend. Be assured that I will ever as cheerfully contribute to your relief in difficulties, as I will rejoice with you in prosperity. But we have nothing to fear. One hundred bushels of wheat, to be sure, is no great marketing; but has it not been expended in the support of a mother, and infant brothers and sisters, thrown upon your bounty in a foreign country? Robert Burns, when the mice nibbled away his corn, said:

I'll get a blessin' wi' the lave,
And never miss't.

Where he expected one, you may a thousand. Robin, by his own confession, ploughed up his mice out of 'ha' and hame.' You have built for your little wanderers a 'cozie bield,' where none dare molest them. There is

* The name of a rock near Paisley.

more true greatness in the affectionate exertions which you have made for their subsistence and support, than the bloody catalogue of heroes can boast of. Your own heart will speak peace and satisfaction to you, to the last moment of your life, for every anxiety you have felt on their account."

The temporary depression in which these difficulties involved him was but the precursor to a period of energetic and triumphant activity,—as the hour immediately before the dawn is the chilliest and the darkest of all that own the sway of night. As he proceeded in his studies and his attempts at drawing, his knowledge and his love of Ornithology increased; and at length he resolved to devote himself to it entirely, and to form a collection, at whatever hazard, as he himself stated, "of all the birds in that part of North America." In a letter to Mr Bartram, he says, "I sometimes smile to think, that while others are immersed in deep schemes of speculation and aggrandizement, in building towns and purchasing plantations, I am entranced in contemplation over the plumage of a lark, or gazing, like a despairing lover, on the lineaments of an owl. While others are hoarding up their bags of money, without the power of enjoying it, I am collecting, without injuring my conscience, or wounding my peace of mind, those beautiful specimens of Nature's works that are for ever pleasing. I have had live crows, hawks, and owls; opossums, squirrels, snakes, lizards, &c. so that my room has sometimes reminded me of Noah's ark; but Noah had a wife in one corner of it, and, in this particular, our parallel does not altogether tally. I receive every subject of natural history that is brought to me; and, though they do not march into my ark from all quarters, as they did into that of our great ancestor, yet I find means, by the distribution of a few fivepenny *bits*, to make them find the way fast enough. A boy, not long ago, brought me a large basketful of crows. I expect his next load will be bull frogs, if I

don't soon issue orders to the contrary. One of my boys caught a mouse in school, a few days ago, and directly marched up to me with his prisoner. I set about drawing it that same evening; and all the while the pantings of its little heart shewed it to be in the most extreme agonies of fear. I had intended to kill it, in order to fix it in the claws of a stuffed owl; but, happening to spill a few drops of water near where it was tied, it lapped it up with such eagerness, and looked in my face with such an eye of supplicating terror, as perfectly overcame me. I immediately untied it, and restored it to life and liberty. The agonies of a prisoner at the stake, while the fire and instruments of torment are preparing, could not be more severe than the sufferings of that poor mouse; and, insignificant as the object was, I felt at that moment the sweet sensations that mercy leaves on the mind when she triumphs over cruelty." Writing to a friend in Paisley, in June, 1803, he says, "Close application to the duties of my profession, which I have followed since Nov. 1795, has deeply injured my constitution; the more so, that my rambling disposition was the worst calculated of any one's in the world for the austere regularity of a teacher's life. I have had many pursuits since I left Scotland,—mathematics, the German language, music, drawing, &c. and I am now about to make a collection of all our finest birds." These intentions werè, after due deliberation in his own mind, submitted to his friends, Messrs Bartram and Lawson. The former expressed his confidence in the abilities and acquirements of Wilson; but hinted his fears, that the difficulties which stood in the way of such an enterprize were too great to be overcome. Wilson was not to be intimidated, but had a ready answer to every objection of his cautious friend, who seems to have rembled lest his intemperate zeal should lead him into a situation, from the embarrassments of which he could not well be extricated. The latter approved of the undertaking;

but observed, that there were several considerations which should have their weight before determining to enter upon an affair of so much importance. Vexed that his friend would not enter into his views, Wilson expressed his scorn of the prudential maxims with which he was assailed, by styling them *the maxims of a cold calculating, contemptible philosophy*. Such was the encouragement he met with from these, his "guides, philosophers, and friends," to embark on his toilsome and perilous undertaking, who seem never to have anticipated, that what they recommended as a relaxation would thus become the sole object of his pursuit: and such, as the event proved, was the erroneous estimate they formed of what might, or might not be achieved, as is always the case when men of mediocrity, calculating by what they themselves are able to perform, venture to estimate the power or direct the efforts of men of genius.

In October, 1804, Wilson, accompanied by two friends, set out on a pedestrian journey to the far-famed Falls of Niagara. Arrived upon its banks, he gazed upon the wild and wondrous scene with an enthusiasm bordering upon distraction; and ever after declared, that no language was forcible enough to convey an adequate idea of the magnificent cataract. The expedition having been commenced too late in the season, our travellers were overtaken on their return by winter, and compelled to struggle through a considerable part of the way through snow midleg deep. One of his companions remained with his friends on the Cayuga lake; the other availed himself of a more agreeable mode of travelling; but the hardy pride of Wilson would not permit *him* to be overcome by fatigue or difficulties. He held on his way, refusing to be relieved of his gun and baggage, and reached his home in the beginning of December, having been absent fifty-nine days, and having in that time traversed 1257 miles, of which he walked 47 the last day.

Upon his return, he amused himself with writing a poetical narrative of the journey. This poem, entitled "The Foresters," was published in the *Portfolio*, and afterwards in a separate form, with illustrative plates and notes. It is entirely descriptive; and is decidedly superior to any of a similar kind which he had written in Scotland, manifesting great improvement both in his taste and his power of composition, — the unsought, it may be, but sure fruit of those toilsome hours spent in his solitary school, and in his own midnight studies.

As specimens of this poem, we may give the following extracts : —

APOSTROPHE TO HOSPITALITY.

Blest Hospitality ! the poor man's pride,
The stranger's guardian, comforter, and guide ;
Whose cheering voice and sympathetic eye
Even angels honour as they hover nigh ;
Confined (in mercy to our wandering race)
To no one country, people, age, or place,
But for the homeless and the exile lives,
And smiles the sweeter still the more she gives.
Oh ! if on earth one spot I e'er can claim,
One humble dwelling, even without a name,
Do thou, blest spirit ! be my partner there,
With sons of woe our little all to share ;
Beside our fire the pilgrim's looks to see,
That swim in moisture as he thinks on thee ;
To hear his tales of wild woods wandering through, —
His ardent blessings as he bids adieu ;
Then, let the selfish hug their gold divine,
Ten thousand dearer pleasures shall be mine !

DESCRIPTION OF A RATTLESNAKE.

Conscious of deadly power, he seem'd to say,
" Pass on ; in peace let each pursue his way ! "
But when the uplifted musket met his view,
Sudden in sounding coils his form he threw ;

Fierce from the centre rose his flatten'd head,
With quivering tongue, and eyes of fiery red,
And jaws distended vast, where threatening lay
The fangs of death, in horrible array ;
While poised above, invisible to view,
His whizzing tail in swift vibration flew.

In a letter to his father, written soon after his return after giving an account of his journey, he concludes in the following tender and affectionate manner : — “ I have nothing more to say, but to wish you all the comforts that your great age, and reputable and industrious life truly merit. In my conduct to you I may have erred ; but my heart has ever preserved the most affectionate veneration for you, and I think on you frequently with tears. In a few years, if I live so long, I shall be placed in your situation, looking back on the giddy vanities of human life, and all my consolation in the hopes of a happy futurity.” The deep emotions awakened by the magnificent scene had but recalled those still deeper emotions, which were ever cherished in his affectionate heart.

To his friend, Mr Bartram, he wrote immediately after his return ; which letter, as illustrative of the effect of his journey in modifying or confirming his views and feelings regarding his great undertaking, is exceedingly interesting.

“ GRAY'S FERRY, 15th December, 1804.

“ DEAR SIR, — Though now snugly at home, looking back in recollection on the long, circuitous journey, which I have at length finished, through trackless snows, and uninhabited forests — over stupendous mountains, and down dangerous rivers — passing over, in a course of 130 miles, as great a variety of men and modes of living, the same extent of country can exhibit in any part of North America ; though in this tour I have had every disadvantage of deep roads and rough weather — hurried marches, and many other inconveniences to encounter,

yet so far am I from being satisfied with what I have seen, or discouraged by the fatigues which every traveller must submit to, that I feel more eager than ever to commence some more extensive expedition, where scenes and subjects, entirely new and generally unknown, might reward my curiosity; and where, perhaps, my humble acquisitions might add something to the stores of knowledge. For all the hazards and privations incident to such an undertaking, I feel confident in my own spirit and resolution. With no family to enchain my affections; no ties but those of friendship; with the most ardent love to my adopted country; with a constitution which hardens amidst fatigues; and with a disposition sociable and open, which can find itself at home by an Indian fire in the depth of the woods, as well as in the best apartment of the civilized; for these, and some other reasons that invite me away, I am determined to become a traveller. But I am miserably deficient in many acquirements absolutely necessary for such a character. Botany, mineralogy, and drawing, I most ardently wish to be instructed in. Can I yet make any progress in botany, sufficient to enable me to be useful? and what would be the most proper way to proceed? I have many leisure moments that should be devoted to this pursuit, provided I could have hopes of succeeding. Your opinion on this subject will confer an additional obligation on your affectionate friend."

This very striking display of some of the most characteristic qualities of Wilson's mind,—cool conception, and ardent, indomitable resolution,—must have satisfied his friends, that the suggestion of no prudential considerations was of the least avail to making him swerve from his purpose. Their future efforts, accordingly, seem to have been directed chiefly towards lessening the difficulties which they foresaw, and endeavouring to promote those views which they wished, but were unable, to check,—for

the long up-pent current of Wilson's genius had now found its natural channel, along which it rushed, no longer to be stopped or turned aside. Even that sternest barrier in the way of humble merit—poverty—was now overcome by the might of strong determination; for, at the time when the preceding letter was written, the whole amount of his funds was only *seventy-five cents, or three-fourths of a dollar!*

Being now a confirmed ornithologist, his leisure hours were all devoted to that study, and to his own improvement in drawing and colouring. In the spring of 1805, we find him sending copies of twenty-eight drawings of the birds to be found in Pennsylvania, or that occasionally pass through that country, to his friend, Mr Bartram, requesting his criticisms or suggestions for the promotion of his plan. In order, if possible, to abridge his labour, he applied himself to acquire the art of etching, under the instructions of Mr Lawson; but, though he exerted every effort of his enthusiastic mind, his attempts fell far short of his own ideas of excellence. He next endeavoured to prevail on Mr Lawson to engage in the work as a joint concern; which, however, was declined. Finding his schemes thus baffled, Wilson declared, with solemn emphasis, his unalterable resolution to proceed alone in the undertaking, if it should cost him his life. "I shall at least leave," continued he, "a small beacon to point out where I perished."

About the beginning of the year 1806, intimation was given, through the medium of the public press, that the President of the United States proposed to despatch parties of scientific men to explore the district of Louisiana. This appeared to Wilson a favourable opportunity for the prosecution of his ornithological researches. His hopes and wishes were communicated to Mr Bartram; who not only cordially approved, but immediately wrote to Mr Jefferson, the President, with whom he happened

to be in terms of intimacy, mentioning Wilson's desires, stating his character and acquirements, and strongly recommending him, as one eminently qualified to be employed in that important national enterprize. In this recommendatory letter was enclosed an application from Wilson himself, which we give entire, as containing a complete view of his extensive plans.

“ To His Excellency THOMAS JEFFERSON, President of the United States.

“ SIR,— Having been engaged, these several years, in collecting materials and furnishing drawings from nature, with the design of publishing a new Ornithology of the United States of America, so deficient in the works of Catesby, Edwards, and other Europeans, I have traversed the greater part of our northern and eastern districts, and have collected many birds undescribed by these naturalists. Upwards of one hundred engravings are completed ; and two plates in folio already engraved. But as many beautiful tribes frequent the Ohio, and the extensive country through which it passes, that probably never visit the Atlantic States ; and as faithful representations of these can only be taken from living nature, or from birds newly killed, I had planned an expedition down that river, from Pittsburg to the Mississippi, thence to New Orleans, and to continue my researches by land in return to Philadelphia. I had engaged, as a companion and assistant, Mr W. Bartram of this place, whose knowledge of botany, as well as zoology, would have enabled me to make the best of the voyage, and to collect many new specimens in both those departments. Sketches of these were to have been taken on the spot ; and the subjects put in a state of preservation, to finish our drawings from, as time would permit. We intended to set out from Pittsburg about the beginning of May ; and expected to reach New Orleans in September.

"But my venerable friend, Mr Bartram, taking into more serious consideration his advanced age, being near seventy, and the weakness of his eyesight, and apprehensive of his inability to encounter the fatigues and privations unavoidable in so extensive a tour; and having, to my extreme regret, and the real loss of science, been induced to decline the journey, I had reluctantly abandoned the enterprize, and all hopes of accomplishing my purpose; till, hearing that your Excellency had it in contemplation to send travellers this ensuing summer up the Red River, the Arkansaw, and other tributary streams of the Mississippi, and believing that my services might be of advantage to some of these parties, in promoting your Excellency's design, while the best opportunities would be afforded me of procuring subjects for the work which I have so much at heart,—under these impressions, I beg leave to offer myself for any of those expeditions; and can be ready at a short notice to attend your Excellency's orders.

"Accustomed to the hardships of travelling,—without a family,—and an enthusiast in the pursuit of natural history, I will devote my whole powers to merit your Excellency's approbation; and ardently wish for an opportunity of testifying the sincerity of my professions, and the deep veneration with which I have the honour to be, sir, your obedient servant,

Kingsess, 6th Feb. 1806.

ALEX. WILSON."

To this manly and respectful application, Mr Jefferson, though possessing proofs of Wilson's talents and qualifications, in some splendid drawings which had previously been sent him, forgetful alike of the duties of his station, and the common courtesies of life, *returned not one word of reply.* So much for the encouragement given by the highest person in the land of liberty to the cultivation of science and literature! It was right that Wilson, and with him the world, should see that a republic, if

it releases from certain restraints, imposed by a different structure of society, and may therefore be supposed to give a freer scope to the energies of individuals, is so cramped by the domination of a niggardly and parsimonious spirit, that it can neither call them into action, nor recompense their exertions. If it affords ample space for genius to rear its laurelled growth, it is the barren space of the sandy desert, where there flow no fertilizing rivers, and there drop no refreshing dews. The truth appears to be, that where the honours of society are worn, *there* the ornaments of society are most encouraged. And this much may be said, that if Wilson gained no advantage, Jefferson lost the opportunity of having won himself imperishable honour, by patronizing a man of true genius, of nature's own nobility—the high nobility of mind.

His undeniable merit, however, had now become so extensively known, as to relieve him from the necessity of depending upon any man's patronage. Mr Bradford, bookseller, of Philadelphia, being about to publish a new edition of Rees's *New Cyclopædia*, Wilson was recommended to him, as one qualified to superintend the work, and was engaged at a liberal salary as assistant editor. He was accordingly enabled to relinquish the toilsome and harassing life of a schoolmaster, which he had so long led, and to devote his unfettered energies to his favourite pursuits. Not long after this engagement, he unfolded to Mr Bradford his views on the subject of an *American Ornithology*; and exhibited such evidence of his ability to execute the work, that Mr Bradford promptly agreed to take upon himself the risk of publishing it. And now, at last, Wilson found those obstructions entirely removed which had so long opposed his favourite enterprize. To his editorial duties, and to the prosecution of his chosen study, he applied with unremitting assiduity, scarcely allowing himself a moment's relaxation; till, finding his health suffering, he indulged himself in a pedestrian

excursion through a part of Pennsylvania. Even during this pleasure tour, however, he never lost sight of his grand undertaking, but employed himself in collecting new specimens, and procuring additional information. This took place in the autumn of 1807; and, on his return, he resumed his labours with fresh ardour, devoting every spare hour to the prosecution of his great work.

The following extract furnishes a specimen of the manner in which Wilson prosecuted his researches:—

“ I started this morning, by peep of day, with my gun, for the purpose of shooting a nuthatch. After jumping a hundred fences, and getting over the ankles in mud, (for I had put on my shoes for lightness,) I found myself almost at the junction of the Schuylkill and Delaware, without success, there being hardly half an acre of woodland in the whole *neck*, and the nuthatch generally frequents large-timbered woods. I returned home at eight o'clock, after getting completely wet, and in a profuse perspiration, which, contrary to the maxims of the doctors, has done me a great deal of good; and I intend to repeat the dose, except that I shall leave out the ingredient of the wet feet, if otherwise convenient. Were I to prescribe such a remedy to Lawson, he would be ready to think me mad. Moderate, nay, even pretty severe exercise, is the best medicine in the world for sedentary people, and ought not to be neglected on any account.”

“ At length,” says his American biographer, “ in the month of September, 1808, the first volume of the *American Ornithology* made its appearance. From the date of the arrangement with the publisher, a prospectus had been issued, wherein the nature and intended execution of the work were specified. But yet no one appeared to entertain an adequate idea of the treat which was about to be afforded to the lovers of the fine arts and of elegant literature: and when the superb volume was presented to the public, their delight was equalled only by their

astonishment that America, as yet in its infancy, should produce an original work in science, which could vie in its essentials with the proudest productions of a similar nature of the European world."

In a letter to his father, not hitherto published, which accompanied a copy of his first volume, he says:—"Mr David Brown having informed me of his intention of sailing for Scotland, I have transmitted to you by him the first volume of my *American Ornithology*, just publishing, and shall, if I live to finish it, send you regularly the remaining nine volumes as they appear. In giving existence to this work, I have expended all I have been saving since my arrival in America. I have also visited every town within 150 miles of the Atlantic coast, from the river St Lawrence to St Augustine in Florida. Whether I shall be able to realize a fortune by this publication, or receive first costs, or suffer the sacrifice of my little all, is yet doubtful. I met with a most honourable reception among many of the first characters in the United States, and have collected such a mass of information on this branch of natural history, as will entitle the work to the merit of originality *at least*."

The conclusion of this letter is exceedingly interesting for the beautiful touches of natural feeling and affection which it expresses. After desiring to be remembered to some of his old companions, he says, "I shall most probably never see either them or any of my friends in Paisley more; but,

While remembrance' power remains,
Those native scenes shall meet my view :
Dear, long-lost friends, on foreign plains
I'll sigh, and shed a tear for you.

"I would willingly give a hundred dollars to spend a few days with you all in Paisley: but, like a true bird of

passage, I would again wing my way across the western waste of waters to the peaceful and happy regions of America. What has become of David, that I never hear from him? Let me know, my dear father, how you live, and how you enjoy your health at your advanced age. I trust the publication I have now commenced, and which has procured for me reputation and respect, will also enable me to contribute to your independence and comfort, in return for what I owe to you. To my stepmother, sisters, brothers, and friends, I beg to be remembered affectionately."

In the latter part of September, 1808, Wilson set out on a journey to the eastward, to exhibit his book, and procure subscribers; and, during the succeeding winter and spring, he visited the Southern States. This was almost a renewal of the adventures of his youth, when he traversed Scotland with the prospectus of his poems; and, from his journal, which he kept as formerly, it appears that the treatment he met with was scarcely more encouraging; and that the character of the man himself had experienced no other change than may be attributed to the prudence and firmness of maturer years, and to his enlarged acquirements. Amid numberless disappointments which he again experienced, his ardour continued unabated; and, as this part of his history can be best told by a series of extracts from his own letters, we proceed to lay these before our readers. In a letter to a friend, dated Boston, October, 1808, he says,—

"I have purposely avoided saying any thing, either good or bad, on the encouragement I have met with. I shall only say, that among the many thousands who have examined my book,—and among these were men of the first character for taste and literature,—I have heard nothing but expressions of the highest admiration and esteem. If I have been mistaken in publishing a work too good for the country, it is a fault not likely to

be soon repeated, and will pretty severely correct itself. But, whatever may be the result of these matters, I shall not sit down with folded hands, whilst any thing can be done to carry my point, since God helps them who help themselves. I am fixing correspondents in every corner of these northern regions, like so many pickets and out-posts ; so that scarcely a *wren* or *tit* shall be able to pass along from York to Canada but I shall get intelligence of it."

From other letters, we glean the following extracts, describing, in a mingled vein of pleasantry and sarcasm, his various journeys during the autumn, winter, and spring of 1808-9 :—

" At Princetown I bade my fellow-traveller good-bye, as I had to wait upon the reverend doctors of the college. I took my book under my arm, put several copies of the prospectus into my pocket, and walked up to this spacious sanctuary of literature. I could amuse you with some of my reflections on this occasion ; but room will not permit."

" I spent nearly the whole of Saturday in Newark, where my book attracted as many starers as a bear or a mammoth would have done ; and I arrived in New York the same evening. The next day, I wrote a number of letters, enclosing copies of the prospectus, to different gentlemen in town. In the afternoon of Tuesday, I took my book and waited on each of those gentlemen to whom I had written the preceding day. Among these I found some friends, but more admirers. The professors of Columbia College expressed much esteem for my performance. The professor of languages, being a Scotchman, and also a Wilson, seemed to feel all the pride of national partiality so common to his countrymen ; and would have done me any favour in his power. I spent the whole of this week traversing the streets, from one particular house to another, till, I believe, I became almost as well known a

the public crier, or the clerk of the market, for I could frequently perceive gentlemen point me out to others, as I passed with my book under my arm."

"On reaching Hartford, I waited on Mr G. a member of Congress, who recommended me to several others, particularly a Mr W. a gentleman of taste and fortune, who was extremely obliging. The publisher of a newspaper here expressed the highest admiration of the work, and has since paid many handsome compliments to it in his publication, as three other editors did in New York. This is a species of currency that will neither purchase plates, nor pay the printer; but, nevertheless, it is gratifying to the vanity of an author,—when nothing better can be got."

"I travelled on through New Hampshire, stopping at every place where I was likely to do any business; and went as far east as Portland, in Maine, where I staid three days; and, the supreme court being then sitting, I had an opportunity of seeing and conversing with people from the remotest boundaries of the United States in this quarter, and received much interesting information from them with regard to the birds that frequent these northern regions. From Portland, I directed my course across the country, among dreary, savage glens, and mountains covered with pines and hemlocks, amid whose black and half burnt trunks the everlasting rocks and stones, that cover this country, 'grinned horribly.' One hundred and fifty-seven miles brought me to Dartmouth College, New Hampshire, on the Vermont line. Here I paid my addresses to the reverend fathers of literature, and met with a kind and obliging reception. Dr Wheelock, the President, made me eat at his table, and the professors vied with each other to oblige me.

"I expect to be in Albany in five days; and, if the legislature be sitting, I shall be detained perhaps three days there. In eight days more, I hope to be in Phila-

delphia. I have laboured with the zeal of a knight errant, in exhibiting this book of mine, wherever I went, travelling with it, like a beggar with his bantling, from town to town, and from one country to another. I have been loaded with praises, with compliments, and kindnesses,—shaken almost to pieces in stage coaches ; I have wandered among strangers, hearing the same Oh's and Ah's, and telling the same story, a thousand times over : and for what ? Ay, that's it ! You are very anxious to know, and you shall know the whole when I reach Philadelphia."

" While in New York, I had the curiosity to call on the celebrated author of the *Rights of Man*. He lives in Greenwich, a short way from the city. In the only decent apartment of a small, indifferent looking frame house, I found this extraordinary man, sitting wrapt in a night gown, the table before him covered with newspapers, with pen and ink beside him. Paine's face would have excellently suited the character of Bardolph ; but the penetration and intelligence of his eye bespeak the man of genius and of the world. He complained to me of his inability to walk, an exercise he was formerly fond of ; he examined my book, leaf by leaf, with great attention—desired me to put down his name as a subscriber ; and, after inquiring particularly for Mr P. and Mr B. wished to be remembered to both.

" My journey through almost the whole of New England has rather lowered the Yankees in my esteem. Except a few neat academies, I found their schoolhouses equally ruinous and deserted with ours ; fields covered with stones ; stone fences ; scrubby oaks, and pine trees ; wretched orchards ; scarcely one grain field in twenty miles ; the taverns along the road, dirty, and filled with loungers, brawling about lawsuits and politics ; the people snappish and extortioners, lazy, and two hundred years behind the Pennsylvanians in agricultural improvements."

" In Annapolis I *passed* my book through both houses

of the legislature : the wise men of Maryland stared and gaped, from bench to bench ; but, having never heard of such a thing as one hundred and twenty dollars for a book, the *eyes* for subscribing were none ; and so it was unanimously determined in the negative. Nowise discouraged by this sage decision, I pursued my route through the tobacco fields, sloughs, and swamps of this illiterate corner of the State, to Washington, distant thirty-eight miles ; and in my way opened fifty-five gates. I was forewarned that I should meet with many of these embarrassments, and I opened twenty-two of them with all the patience and philosophy I could muster ; but, when I still found them coming thicker and faster, my patience and philosophy both abandoned me, and I saluted every new gate (which obliged me to plunge into the mud to open it,) with perhaps less Christian resignation than I ought to have done. The negroes there are very numerous, and most wretchedly clad : their whole covering, in many instances, assumes the appearance of neither coat, waistcoat, nor breeches, but a motley mass of coarse, dirty woollen rags, of various colours, gathered up about them. When I stopped at some of the negro huts to inquire the road, both men and women huddled up their filthy bundles of rags around them, with both arms, in order to cover their nakedness, and came out, very civilly, to shew me the way."

" I mentioned to you, in my last, that the streets of Norfolk were in a most disgraceful state ; but I was informed, that, some time before, they had been much worse ; that at one time the news-carrier delivered his papers from a boat, which he poled along through the mire ; and that a party of sailors, having nothing better to do, actually lunched a ship's long boat into the streets, rowing along with four oars through the mud, while one stood at the bow, heaving the lead, and singing out the depth."

" The general features of North Carolina, where I

crossed it, are immense, solitary pine savannas, through which the road winds among stagnant ponds, swarming with alligators, dark, sluggish creeks, of the colour of brandy, over which are thrown high wooden bridges, without railings, and so crazy and rotten, as not only to alarm one's horse, but also the rider, and to make it a matter of thanksgiving with both, when they get fairly over, without going through ; enormous cypress swamps, which, to a stranger, have a striking, desolate, and ruinous appearance. Picture to yourself a forest of prodigious trees, rising, as thick as they can grow, from a vast, flat, and impenetrable morass, covered for ten feet from the ground with reeds. The leafless limbs of the cypresses are clothed with an extraordinary kind of moss, (*Tillandsia Usneoides*,) from two to ten feet long, in such quantities, that fifty men might conceal themselves in one tree. Nothing in this country struck me with such surprise as the prospect of several thousand acres of such timber, loaded, as it were, with many million tons of tow, waving in the wind. I attempted to penetrate several of these swamps with my gun, in search of something new ; but, except in some chance places, I found it altogether impracticable. I coasted along their borders, however, in many places, and was surprised at the great profusion of evergreens, of numberless sorts, and a variety of berries that I knew nothing of. Here I found multitudes of birds, that never winter with us in Pennsylvania, living in abundance."

" From Wilmington I rode through solitary pine savannas and cypress swamps as before ; sometimes thirty miles without seeing a hut or human being. On arriving at the Wackamaw, Pedee, and Black River, I made long zigzags among the rich nabobs, who live on their rice plantations, amidst large villages of negro huts. One of these gentlemen told me, that he had ' something better than six hundred head of blacks ! ' "

“ On the commons, near Charleston, I presided at a singular feast : The company consisted of two hundred and thirty-seven carrion crows, (*Vultur atratus*,) five or six dogs, and myself, though I only kept order, and left the eating part entirely to the others. I sat so near to the dead horse, that my feet touched his ; and yet, at one time, I counted thirty-eight vultures on and within him, so that hardly an inch of his flesh could be seen for them. Linnæus and others have confounded this vulture with the turkey buzzard ; but they are two very distinct species.”

“ Having now visited all the towns within one hundred miles of the Atlantic, from Maine to Georgia, and done as much for this bantling book of mine, as ever author did for any progeny of his brain, I now turn my wishful eye towards home. There is a charm, a melody, in this little word *home*, which only those know who have forsaken it to wander among strangers ; exposed to dangers, fatigues, insults, and impositions, of a thousand nameless kinds. Perhaps I feel the force of this idea rather more at present than usual, being indisposed with a slight fever these three days, which a dose of sea sickness, will, I hope, rid me of.”

The second volume was published in January, 1810 ; and, in the latter end of the same month, the indefatigable ornithologist set out for Pittsburg, on his route to New Orleans. After consulting with his friends on the most eligible mode of descending the Ohio, he resolved, contrary to their dissuasions, to venture in a skiff by himself, considering this mode, with all its inconveniencies, as best suited to his funds, and most favourable to his researches. Accordingly, on the 24th of February, he embarked in his little boat, and bade adieu to Pittsburg.

The difficulties which he had to encounter were such as, to a less enterprizing traveller, would have been insurmountable ; added to which, he had a severe attack of dysentery, and was compelled to prosecute his journey

notwithstanding his painful and weakened condition. An Indian, having been made acquainted with his situation, recommended the eating of strawberries, which were then fully ripe, and in great abundance. On this delightful fruit, and newly laid eggs alone, he lived for several days; and he attributed his restoration to health to these simple remedies.

The following series of extracts from letters to Mr Lawson will be found to contain an exceedingly interesting account of this toilsome and hazardous journey:—

“PITTSBURG, *February 22, 1810.*

“DEAR SIR,—From this first stage of my ornithological pilgrimage, I sit down with pleasure to give you some account of my adventures since we parted. On arriving at Lancaster, I waited on the governor, secretary of state, and such other great folks as were likely to be useful to me. The governor received me with civility, passed some good-natured compliments on the volumes, and readily added his name to my list. He seems an active man, of plain good sense, and little ceremony. By Mr L. I was introduced to many members of both houses; but I found them in general such a pitiful, squabbling, political mob; so split up, and justling about the mere formalities of legislation, without knowing any thing of its realities, that I abandoned them in disgust. I must, however, except from this censure a few intelligent individuals, friends to science, and possessed of taste, who treated me with great kindness.

“Having a letter from Dr Muhlenberg to a clergyman in Hanover, I passed on through a well cultivated country, chiefly inhabited by Germans, to that place, where a certain judge took upon himself to say, that such a book as mine ought not to be encouraged, as it was not within the reach of the commonalty, and therefore inconsistent with our republican institutions! By the same mode of

reasoning, which I did not dispute, I undertook to prove him a greater culprit than myself, in erecting a large elegant three-story brick house, so much beyond the reach of the commonalty, as he called them, and consequently grossly contrary to our republican institutions. I harangued this Solomon of the bench more seriously afterwards, pointing out to him the great influence of science on a young rising nation like ours, and particularly the science of natural history, till he began to shew such symptoms of *intellect* as to seem ashamed of what he had said."

"Gentlemen here assure me, that the road to Chilocothe is impassable on foot, by reason of the freshes. I have therefore resolved to navigate myself in a small skiff which I have bought, and named the Ornithologist, down to Cincinnati, a distance of five hundred and twenty-eight miles, intending to visit five or six towns that lie in my way. From Cincinnati I will cross over to the opposite shore, and, abandoning my boat, make my way to Lexington, where I expect to be ere your letter can reach that place. Were I to go by Chilocothe, I should miss five towns as large as it. Some say that I ought not to attempt going down by myself—others think I may. I am determined to make the experiment, the expense of hiring a rower being considerable. As soon as the ice clears out of the Alleghany, and the weather will permit, I shall shove off, having every thing in readiness. I have ransacked the woods and fields here, without finding a single bird new to me, or indeed any thing but a few snow birds and sparrows. I expect to have something interesting to communicate in my next."

"Having now reached the second stage of my bird-catching expedition, I willingly sit down to give you some account of my adventures and remarks since leaving Pittsburg: by the aid of a good map, and your usual stock of patience, you will be able to listen to my story, and trace all my wanderings. Though generally dissuaded

from venturing by myself on so long a voyage down the Ohio in an open skiff, I considered this mode, with all its inconveniences, as the most favourable to my researches, and the most suitable to my funds ; and I determined accordingly. Two days before my departure, the Alleghany river was one wide torrent of broken ice, and I calculated on experiencing considerable difficulties on this score. My stock of provisions consisted of some biscuit and cheese, and a bottle of cordial, presented me by a gentleman of Pittsburg ; my gun, trunk, and great coat occupied one end of the boat ; I had a small tin, occasionally to bale her, and to take my beverage from the Ohio with ; and, bidding adieu to the smoky confines of Pitt, I lunched into the stream, and soon winded away among the hills that every where enclose this noble river. The weather was warm and serene, and the river, like a mirror, except where floating masses of ice spotted its surface, and which required some care to steer clear of ; but these, to my surprise, in less than a day's sailing, totally disappeared. Far from being concerned at my new situation, I felt my heart expand with joy at the novelties which surrounded me ; I listened with pleasure to the whistling of the red bird on the banks as I passed, and contemplated the forest scenery, as it receded, with increasing delight. The smoke of the numerous sugar camps, rising lazily among the mountains, gave great effect to the varying landscape ; and the grotesque log cabins, that here and there opened from the woods, were diminished into mere dog-houses by the sublimity of the impending mountains. If you suppose to yourself two parallel ranges of forest covered hills, whose irregular summits are seldom more than three or four miles apart, winding through an immense extent of country, and enclosing a river half a mile wide, which alternately washes the steep declivity on one side, and leaves a rich, forest clad bottom on the other, of a mile or so in breadth,

you will have a pretty correct idea of the appearance of the Ohio. The banks of these rich flats are from twenty to sixty and eighty feet high; and even these last were within a few feet of being overflowed in December, 1868.

“ I now stripped with alacrity to my new avocation. The current went about two and a half miles an hour, and I added about three and a half miles more to the boat's way with my oars.

“ I rowed twenty odd miles the first spell, and found I should be able to stand it perfectly well. About an hour after night, I put up at a miserable cabin, fifty-two miles from Pittsburg, where I slept on what I supposed to be corn stalks, or something worse; so, preferring the smooth bosom of the Ohio to this brush heap, I got up long before day, and, being under no apprehension of losing my way, I again pushed out into the stream. The landscape on each side lay in one mass of shade; but the grandeur of the projecting headlands and vanishing points, or lines, was charmingly reflected in the smooth glassy surface below. I could only discover when I was passing a clearing by the crowing of cocks, and now and then, in more solitary places, the big horned owl made a most hideous hollowing, that echoed among the mountains. In this lonesome manner, with full leisure for observation and reflection, exposed to hardships all day, and hard berths all night, to storms of rain, hail, and snow—for it froze severely almost every night—I persevered, from the 24th of February to Sunday evening, March 17, when I moored my skiff safely in Bear Grass Creek, at the rapids of the Ohio, after a voyage of seven hundred and twenty miles. My hands suffered the most; and it will be some weeks yet before they recover their former feeling and flexibility. It would be the task of a month to detail all the particulars of my numerous excursions, in every direction, from the river. In Stubenville, Charlestown, and Wheeling, I found some friends. At Marietta, I

visited the celebrated remains of Indian fortifications, as they are improperly called, which cover a large space of ground on the banks of the Muskingum. Seventy miles above this, at a place called Big Grave Creek, I examined some extraordinary remains of the same kind there. The Big Grave is three hundred paces round at the base, seventy feet perpendicular, and the top, which is about fifty feet over, has sunk in, forming a regular concavity, three or four feet deep. This tumulus is in the form of a cone, and the whole, as well as its immediate neighbourhood, is covered with a venerable growth of forest, four or five hundred years old, which gives it a most singular appearance."

"On Monday, March 5, about ten miles below the mouth of the Great Sciota, where I saw the first flock of paroquets, I encountered a violent storm of wind and rain, which changed to hail and snow, blowing down trees and limbs in all directions, so that, for immediate preservation, I was obliged to steer out into the river, which rolled and foamed like a sea, and filled my boat nearly half full of water; and it was with the greatest difficulty I could make the least head way. It continued to snow violently until dusk, when I at length made good my landing, at a place on the Kentucky shore, where I had perceived a cabin; and here I spent the evening in learning the art and mystery of bear-treeing, wolf-trapping, and wild-cat-hunting, from an old professor. But, notwithstanding the skill of this great master, the country here is swarming with wolves and wild cats, black and brown; according to this hunter's own confession, he had lost sixty pigs since Christmas last, and all night long, the distant howling of the wolves kept the dogs in a perpetual uproar of barking. This man was one of those people called *squatters*, who neither pay rent nor own land, but keep roving on the frontiers, advancing as the tide of civilized population approaches. They are the

immediate successors of the savages, and far below them in good sense and good manners, as well as comfortable accommodations. An engraved representation of one of their cabins would form a striking embellishment to the pages of the *Portfolio*, as a specimen of the first order of American architecture."

"In the afternoon of the 15th, I entered Big Bone Creek, which being passable only about a quarter of a mile, I secured my boat, and left my baggage under the care of a decent family near, and set out on foot five miles through the woods for the Big Bone Lick, that great antediluvian rendezvous of the American elephants. This place, which lies 'far in the windings of a sheltered vale,' afforded me a fund of amusement in shooting ducks and paroquets, (of which last I skinned twelve, and brought off two slightly wounded,) and in examining the ancient buffalo roads to this great licking place. Mr Colquhoun, the proprietor, was not at home; but his agent and manager entertained me as well as he was able, and was much amused with my enthusiasm. This place is a low valley, every where surrounded by high hills; in the centre, by the side of the creek, is a quagmire of near an acre, from which, and another smaller one below, the chief part of these large bones have been taken; at the latter places, I found numerous fragments of large bones lying scattered about. In pursuing a wounded duck across this quagmire, I had nearly deposited my carcass among the grand congregation of mammoths below, having sunk up to the middle, and had hard struggling to get out."

"On Friday the 24th, I left my baggage with a merchant of the place [Louisville], to be forwarded by the first wagon, and set out on foot for Lexington, seventy-two miles distant.

"Walking here in wet weather is most execrable, and is like travelling on soft soap; a few days of warm weather hardens this again almost into stone. Want of

bridges is the greatest inconvenience to a foot traveller here. Between Shelbyville and Frankfort, having gone out of my way to see a pigeon roost, (which, by the bye, is the greatest curiosity I have seen since leaving home,) I waded a deep creek called Benson, nine or ten times. I spent several days in Frankfort, and in rambling among the stupendous cliffs of Kentucky river. On Thursday evening I entered Lexington.

"In descending the Ohio, I amused myself with a poetical narrative of my expedition, which I have called '*The Pilgrim*;' an extract from which shall close this long, and I am afraid, tiresome letter."

"In the woods, [near the banks of the Green river,] I met a soldier, on foot, from New Orleans, who had been robbed and plundered by the Chactaws, as he passed through their nation. 'Thirteen or fourteen Indians,' said he, 'surrounded me before I was aware, cut away my canteen, tore off my hat, took the handkerchief from my neck, and the shoes from my feet, and all the money I had from me, which was about forty-five dollars.' Such was his story. He was going to Chilicothe, and seemed pretty nearly done up. In the afternoon I crossed another stream, of about twenty-five yards in width, called Little Barren; after which, the country began to assume a new and very singular appearance. The woods, which had hitherto been stately, now degenerated into mere scrubby saplings, on which not a bud was beginning to unfold, and grew so open, that I could see for a mile through them. No dead timber or rotten leaves were to be seen, but the whole face of the ground was covered with rich verdure, interspersed with a variety of very beautiful flowers, altogether new to me. It seemed as if the whole country had once been one general level; but that, from some unknown cause, the ground had been undermined, and had fallen in, in innumerable places, forming regular funnel-shaped concavities, of all dimensions, from twenty

feet in diameter, and six feet in depth, to five hundred by fifty, the surface or verdure generally unbroken. In some tracts, the surface was entirely destitute of trees, and the eye was presented with nothing but one general neighbourhood of these concavities, or, as they are usually called, sink-holes. At the centre, or bottom, of some of these, openings had been made for water. In several places these holes had broken in, on the sides, and even middle of the road, to an unknown depth; presenting their grim mouths as if to swallow up the unwary traveller. At the bottom of one of those declivities, at least fifty feet below the general level, a large rivulet of pure water issued at once from the mouth of a cave about twelve feet wide and seven high. A number of very singular sweet smelling lichens grew over the entrance, and a pewee had fixed her nest, like a little sentry-box, on a projecting shelf of the rock above the water. The height and dimensions of the cave continued the same as far as I waded in, which might be thirty or forty yards; but the darkness became so great that I was forced to return. I observed numbers of small fish sporting about; and I doubt not but these abound even in its utmost subterranean recesses. The whole of this country, from Green to Red river, is hollowed out into these enormous caves; one of which, lately discovered in Warren county, about eight miles from the dripping spring, has been explored for upwards of six miles, extending under the bed of the Green river. The entrance to these caves generally commences at the bottom of a sink-hole, and many of them are used by the inhabitants as cellars, or spring houses, having generally a spring or brook of clear water running through them. I descended into one of these, belonging to a Mr Wood, accompanied by the proprietor, who carried the light. At first, the darkness was so intense that I could scarcely see a few feet beyond the circumference of the candle; but, after being in for five or six

minutes, the objects around me began to make their appearance more distinctly. The bottom, for fifteen or twenty yards at first, was so irregular that we had constantly to climb over large masses of wet and slippery rocks. The roof rose in many places to the height of twenty or thirty feet, presenting all the most irregular projections of surface, and hanging in gloomy and silent horror. We passed numerous chambers, or offsets, which we did not explore; and after three hours wandering in these profound regions of gloom and silence, the particulars of which would detain me too long, I emerged, with a handkerchief filled with bats, including one which I have never seen described; and a number of extraordinary insects of the gryllus tribe, with antennæ upwards of six inches long, and which, I am persuaded, had never before seen the light of day, as they fled from it with seeming terror and I believe were as blind in it as their companions, the bats. Great quantities of native glauber salts are found in these caves, and are used by the country people in the same manner, and with equal effect, as those of the shops. But the principal production is saltpetre, which is procured from the earth in great abundance. The cave in Warren county, above mentioned, has lately been sold for three thousand dollars to a saltpetre company; an individual of which informed me that, from every appearance, this cave had been known to the Indians many ages ago, and had evidently been used for the same purposes. At the distance of more than a mile from the entrance, the exploring party, on their first visit, found the roof blackened by smoke, and bundles of half burnt canes scattered about. A bark mockasin, of curious construction, besides several other Indian articles, were found among the rubbish. The earth, also, lay piled in heaps, with great regularity, as if in preparation for extracting the saltpetre.

“ Notwithstanding the miserable appearance of the timber in these barrens, the soil, to my astonishment, produces

the most luxuriant fields of corn and wheat I had ever before met with. But one great disadvantage is the want of water; for the whole running streams, with which the surface of this country evidently once abounded, have been drained off to a great depth, and now murmur among these lower regions secluded from the day. One forenoon I rode nineteen miles without seeing water; while my faithful horse looked round, but in vain, at every hollow, with a wishful and languishing eye, for that precious element. These barrens furnished me with excellent sport in shooting grouse, which abound here in great numbers; and in the delightful groves, that here and there rise majestically from these plains, I found many new subjects for my Ornithology. I observed all this day, far to the right, a range of high, rocky, detached hills, or knobs, as they are called, that skirt the barrens, as if they had been once the boundaries of the great lake that formerly covered this vast plain. These, I was told, abound with stone, coal, and copperas. I crossed Big Barren river in a ferry-boat, where it was about one hundred yards wide; and passed a small village called Bowling Green, near which I rode my horse up to the summit of one of these high insulated rocky hills, or knobs, which overlooked an immense circumference of country, spreading around bare and leafless, except where the groves appeared, in which there is usually water. Fifteen miles from this, induced by the novel character of the country, I put up for several days at the house of a pious and worthy presbyterian, whence I made excursions, in all directions, through the surrounding country. Between this and Red River the country had a bare and desolate appearance. Caves continued to be numerous; and report made some of them places of concealment for the dead bodies of certain strangers who had disappeared there. One of these lies near the banks of the Red River, and belongs to a person of the name of ———,

a man of notoriously bad character, and strongly suspect even by his neighbours, of having committed a murder of this kind, which was related to me, with all minutiae of horrors. As this man's house stands by roadside, I was induced by motives of curiosity to see and take a peep of him. On my arrival I found two persons in conversation under the piazza, one of whom informed me that he was the landlord. He was a mulatto, rather above the common size, inclining to corpulency, with legs small in proportion to his size, and walked lame. His countenance bespoke a soul capable of deeds of darkness. I had not been three minutes in company, when he invited the other man (who I understood was a traveller) and myself to walk back and see his cave to which I immediately consented. The entrance is in the perpendicular front of a rock, behind the house; has a door with a lock and key to it, and was crowded with pots of milk, placed near the running stream. The roof and sides of solid rock were wet and dropping with water. Desiring to walk before with the lights, I followed, with my hand on my pistol, reconnoitring on every side, and listening to his description of its length and extent. After examining this horrible vault for forty or fifty yards, I declined going any farther, complaining of a rheumatism, and I now first perceived that the other person had stood behind, and that we two were alone together. Confiding in my means of self-defence, whatever mischief the devil might suggest to him, I fixed my eye steadily on his, and observed to him, that he could not be ignorant of the reports circulated about the country relative to this cave. 'I suppose,' said I, 'you know what I mean?' 'Yes, I understand you,' returned he, without appearing at least embarrassed, — 'that I killed somebody, and threw them into this cave. I can tell you the whole beginning of that damned lie,' said he; and, without moving from the spot, he detailed to me a long story, which would

half my letter, to little purpose, and which, with other particulars, I shall reserve for your amusement when we meet. I asked him why he did not get the cave examined by three or four reputable neighbours, whose report might rescue his character from the suspicion of having committed so horrid a crime. He acknowledged it would be well enough to do so, but did not seem to think it worth the trouble; and we returned as we advanced, — walking before with the lights. Whether this man be guilty or not of the transaction laid to his charge, I know not; but his manners and aspect are such as by no means to allay suspicion."

"About three weeks ago, I wrote to you from Nashville, enclosing three sheets of drawings, which I hope you have received. I was, at that time, on the point of setting out for St Louis; but, being detained a week by constant and heavy rains, and considering that it would add four hundred miles to my journey, and detain me at least a month, and the season being already far advanced, and no subscribers to be expected there, I abandoned the idea, and prepared for a journey through the wilderness. I was advised by many not to attempt it alone—that the Indians were dangerous, the swamps and rivers almost impassable without assistance; and a thousand other hobgoblins were conjured up to dissuade me from going alone. But I weighed all these matters in my own mind; and, attributing a great deal of this to vulgar fears and exaggerated reports, I equipt myself for the attempt. I rode an excellent horse, on which I could depend. I had a loaded pistol in each pocket, a loaded fowling piece belted across my shoulder, a pound of gunpowder in my flask, and five pounds of shot in my belt. I bought some biscuit and dried beef, and, on Friday morning, May 4, I left Nashville. About half a mile from town I observed a poor negro with two wooden legs, building himself a cabin in the woods. Supposing that this journey might

afford you and my friends some amusement, I kept a particular account of the various occurrences, and shall transcribe some of the most interesting, omitting every thing relative to my ornithological excursions and discoveries, as more suitable for another occasion. Eleven miles from Nashville I came to the Great Harpath, a stream of about fifty yards wide, which was running with great violence. I could not discover the entrance of the ford, owing to the rains and inundations. There was no time to be lost; I plunged in, and almost immediately my horse was swimming. I set his head aslant the current, and, being strong, he soon landed me on the other side. As the weather was warm, I rode in my wet clothes without any inconvenience. The country to-day was a perpetual succession of steep hills and low bottoms; I crossed ten or twelve large creeks, one of which I swam with my horse, where he was near being entangled among some bad drift wood. Now and then a solitary farm opened from the woods, where the negro children were running naked about the yards. I also passed along the north side of a high hill, where the whole timber had been prostrated by some terrible hurricane. I lodged this night in a miner's, who told me he had been engaged in forming no less than thirteen companies for hunting mines, all of whom had left him. I advised him to follow his farm, as the surest vein of ore he could work. Next day (Saturday) I first observed the cane growing, which increased until the whole woods were full of it. The road this day winded along the high ridges of mountains that divide the waters of the Cumberland from those of the Tennessee. I passed few houses to-day; but met several parties of boatmen returning from Natchez and New Orleans, who gave me such an account of the road, and the difficulties they had met with, as served to stiffen my resolution to be prepared for every thing. These men were as dirty as Hottentots; their dress, a shirt and trousers of canvass,

black, greasy, and sometimes in tatters; the skin burnt wherever exposed to the sun; each with a budget, wrapt up in an old blanket; their beards, eighteen days old, added to the singularity of their appearance, which was altogether savage. These people came from the various tributary streams of the Ohio, hired at forty or fifty dollars a-trip, to return back on their own expenses. Some had upwards of eight hundred miles to travel. When they come to a stream that is unfordable, they coast it for a fallen tree; if that cannot be had, they enter with their budget on their head, and, when they lose bottom, drop it on their shoulders, and take to swimming. They have sometimes fourteen or fifteen of such streams to pass in a day, and morasses of several miles in length, that I have never seen equalled in any country. I lodged this night at one Dobbin's, where ten or twelve of these men lay on the floor. As they scrambled up in the morning, they very generally complained of being unwell, for which they gave an odd reason,—lying within doors, it being the first of fifteen nights they had been so indulged. Next morning, (Sunday,) I rode six miles to a man's of the name of Grinder, where our poor friend Lewis perished. *

“In the same room where he expired, I took down from Mrs Grinder the particulars of that melancholy event, which affected me extremely. This house, or cabin, is seventy-two miles from Nashville, and is the last white man's as you enter the Indian country. Governor Lewis, she said, came thither about sunset, alone, and inquired if he could stay for the night; and, alighting, brought his saddle into the house. He was dressed in a loose gown, white, striped with blue. On being asked if he came

* “It is hardly necessary to state that this was the brave and enterprising traveller whose journey, across the Rocky Mountains, to the Pacific Ocean, has obtained for him well merited celebrity. The true cause of his committing the rash deed, so feelingly detailed above, is not yet known to the public.”

alone, he replied, that there were two servants behind, who would soon be up. He called for some spirits, and drank a very little. When the servants arrived, one of whom was a negro, he inquired for his powder, saying he was sure he had some powder in a canister. The servant gave no distinct reply, and Lewis, in the mean while, walked backwards and forwards before the door, talking to himself. Sometimes, she said, he seemed as if he were walking up to her, and would suddenly wheel round, and walk back as fast as he could. Supper being ready, he sat down, but had eaten only a few mouthfuls, when he started up, speaking to himself in a violent manner. At these times, she says, she observed his face to flush as if it had come on him in a fit. He lighted his pipe, and, drawing a chair to the door, sat down, saying to Mrs Grinder, in a kind tone of voice, ‘Madam, this is a very pleasant evening.’ He smoked for some time, but quitted his seat, and traversed the yard as before. He again sat down to his pipe, seemed again composed, and, casting his eyes wistfully towards the west, observed what a sweet evening it was. Mrs Grinder was preparing a bed for him; but he said he would sleep on the floor, and desired the servants to bring the bear skins and buffalo robe, which were immediately spread out for him; and, it being now dusk, the woman went off to the kitchen, and the two men to the barn, which stands about two hundred yards off. The kitchen is only a few paces from the room where Lewis was; and the woman, being considerably alarmed by the behaviour of her guest, could not sleep, but listened to him walking backwards and forwards, she thinks, for several hours, and talking aloud, as she said, ‘like a lawyer.’ She then heard the report of a pistol, and something fall heavily on the floor, and the words, ‘O Lord!’ Immediately afterwards, she heard another pistol; and, in a few minutes, she heard him at her door, calling out, ‘O Madam! give me some water, and heal my wounds!’

The logs being open, and unplastered, she saw him stagger back, and fall against a stump that stands between the kitchen and the room. He crawled for some distance, raised himself by the side of a tree, where he sat about a minute. He once more got to the room ; afterwards, he came to the kitchen door, but did not speak ; she then heard him scraping the bucket with a gourd for water, but it appeared that this cooling element was denied the dying man ! As soon as day broke, and not before, the terror of the woman having permitted him to remain for two hours in this most deplorable situation, she sent two of her children to the barn, her husband not being at home, to bring the servants ; and, on going in, they found him lying on the bed. He uncovered his side, and shewed them where the bullet had entered ; a piece of the forehead was blown off, and had exposed the brains, without having bled much. He begged that they would take his rifle and blow out his brains, and he would give them all the money he had in his trunk. He often said, ‘ I am no coward ; but I am so strong, so hard to die ! ’ He begged the servant not to be afraid of him, for that he would not hurt him. He expired in about two hours, or just as the sun rose above the trees. He lies buried close by the common path, with a few loose rails thrown over his grave. I gave Grinder money to put a post fence round it, to shelter it from the hogs and from the wolves, and he gave me his written promise that he would do it. I left this place in a very melancholy mood, which was not much allayed by the prospect of the gloomy and savage wilderness which I was just entering alone.

“ I was roused from this melancholy reverie by the roaring of Buffalo river, which I forded with considerable difficulty. I passed two or three solitary Indian huts in the course of the day, with a few acres of open land at each ; but so wretchedly cultivated, that they just make out to raise maize enough to keep in existence. They pointed

me out the distances by holding up their fingers. This is the country of the Chickasaws, though erroneously laid down in some maps as that of the Cherokees. I slept this night in one of their huts : the Indians spread a deer skin for me on the floor ; I made a pillow of my portman-teau, and slept tolerably well : an old Indian laid himself down near me."

" This day, (Wednesday,) I passed through the most horrid swamps I had ever seen. These are covered with a prodigious growth of canes and high woods, which, together, shut out almost the whole light of day, for miles. The banks of the deep and sluggish creeks, that occupy the centre, are precipitous ; where I had often to plunge my horse seven feet down, into a bed of deep clay, up to his belly, from which nothing but great strength and exertion could have rescued him ; the opposite shore was equally bad, and beggars all description. For an extent of several miles, on both sides of these creeks, the darkness of night obscures every object around."

" On Saturday, I passed a number of most execrable swamps ; the weather was extremely warm, and I had been attacked by something like the dysentery, which occasioned a constant burning thirst, and weakened me greatly. I stopt this day frequently to wash my head and throat in the water, to allay the burning thirst ; and, putting on my hat without wiping, received considerable relief from it. Since crossing the Tennessee, the woods have been interspersed with pines, and the soil has become more sandy. This day I met a Captain Hughes, a traveller, on his return from Santa Fee. My complaint increased so much, that I could scarcely sit on horseback ; and, all night, my mouth and throat were parched with a burning thirst and fever. On Sunday, I bought some raw eggs, which I ate, and repeated the dose at mid-day, and towards evening, and found great benefit from this simple remedy. I inquired, all along the road, for fresh eggs, and, for nearly

a week, made them almost my sole food, till I completed my cure. The water in these cane swamps is little better than poison; and, under the heat of a burning sun, and the fatigues of travelling, it is difficult to repress the urgent calls of thirst. On the Wednesday following, I was assailed by a tremendous storm of rain, wind, and lightning, until I and my horse were both blinded by the deluge, and unable to go on. I sought the first most open place, and, dismounting, stood for half an hour under the most profuse heavenly shower-bath I ever enjoyed. The roaring of the storm was terrible; several trees around me were broken off, and torn up by the roots, and those that stood were bent almost to the ground; limbs of trees, of several hundred-weight, flew past, within a few yards of me, and I was astonished how I escaped. I would rather take my chance in a field of battle, than in such a tornado again.

"On the fourteenth day of my journey, at noon, I arrived at this place, [Natchez, Mississippi territory,] having overcome every obstacle, alone, and without being acquainted with the country; and, what surprised the boatmen more, without whisky. On an average, I met from forty to sixty boatmen every day, returning from this place and New Orleans. The Chickasaws are a friendly, inoffensive people, and the Chactaws, though more reserved, are equally harmless. Both of them treated me with civility, though I several times had occasion to pass through their camps, where many of them were drunk. The parouquet which I carried with me was a continual fund of amusement to all ages of these people; and, as they crowded around to look at it, gave me an opportunity of studying their physiognomies without breach of good manners."

Writing to his brother, David, in the same year, he thus expresses his views, feelings, and hopes:—"By the first opportunity, I will transmit a trifle to our old father,

whose existence, so far from being forgotten, is as dear to me as my own. But, David, an ambition of being distinguished in the literary world has required sacrifices and exertions from me with which you are unacquainted ; and a wish to reach the glorious rock of independence, that I might from thence assist my relatives, who are struggling with, and buffeting the billows of adversity, has engaged me in an undertaking more laborious and extensive than you are aware of, and has occupied almost every moment of my time for several years. Since February, 1810, I have slept, for several weeks, in the wilderness alone, in an Indian country, with my gun and my pistols in my bosom ; and have found myself so reduced by sickness, as to be scarcely able to stand, when not within 300 miles of a white settlement, and under the burning latitude of 25 degrees. I have, by resolution, surmounted all these, and other obstacles, in my way to my object, and now begin to see the blue sky of independence open around me."

Before concluding the account of this, his most extensive journey, we may present a few extracts from his journal, given by the American Biographer, as specimens of the diversified treatment which he experienced,—at times cold and forbidding, at times civil and kind, according to the habits, dispositions, and civilization of those with whom he met.

"*March 9.*—Visited a number of the literati and wealthy of Cincinnati, who all told me, that they would think of it, viz. of subscribing ; they are a very thoughtful people.

"*March 17.*—Rained and hailed all last night. Set off at eight o'clock, after emptying my boat of the deluge of water ; rowed hard all day ; at noon recruited myself with some biscuits, cheese, and American wine ; reach the falls ; night sets in ; hear the roaring of the rapids ; after excessive hard work, arrived at Bear Grass Creek, and

fastened my boat to a Kentucky one ; take my baggage, and grope my way to Louisville ; put up at the Indian Queen Tavern, and gladly sit down to rest myself.

“ *March 18.*—Rose quite refreshed. Found a number of land-speculators here ; titles to lands in Kentucky subject to great disputes.

“ *March 20.*—Set out this afternoon with the gun ; killed nothing new. People in taverns here devour their meals ; many shopkeepers board in taverns : also boatmen, land-speculators, merchants, &c. No naturalists to keep me company.

“ Good country this for lazy fellows : they plant corn, turn their pigs into the woods, and in the autumn feed upon corn and pork ; they lounge about the rest of the year.

“ *March 24.*— Weather cool. Walked to Shelbyville to breakfast. Passed some miserable log-houses in the midst of rich fields. Called at a 'Squire C.'s, who was rolling logs ; sat down beside him, but was not invited in, though it was about noon.

“ *March 29.*— Finding my baggage not likely to come on, I set out from Frankfort for Lexington. The woods swarm with pigs, squirrels, and woodpeckers. Arrived exceedingly fatigued.

“ Wherever you go, you hear people talking of buying and selling land ; no readers, all traders,—the Yankees, wherever you find them, are all traders ; found one here, a house-carpenter, who came from Massachusetts, and brought some barrels of apples down the river from Pennsylvania to this town, where he employs the negro women to hawk them about the streets, at thirty-seven and a half cents per dozen.

“ Restless, speculating set of mortals here, full of law-suits ; no great readers, even of politics or newspapers.

“ The sweet courtesies of life, the innumerable civilities in deeds and conversations, which cost one so little, are

seldom found here. Every man you meet with has either some land to buy or sell, some lawsuit, some coarse hemp or corn to dispose of, and, if the conversation do not lead to any of these, he will force it. Strangers here receive less civilities than in any place I have ever been in. The respect due to the fatigues and privations of travellers is nowhere given, because every one has met with as much, and thinks he has seen more than any other. No one listens to the adventures of another without interrupting the narrative with his own; so that, instead of an auditor, he becomes a competitor in adventure-telling. So many adventurers, also, continually wandering about here, injure the manners of the people; for avarice and knavery prey most freely and safely upon passengers whom they may never meet again.

“ These few observations are written in Salter White’s garret, with little or no fire, wood being a scarce article here, the forest being a full half mile distant.

“ *April 9.* — Court held to-day, large concourse of people; not less than one thousand horses in town, hitched to the side posts; no food for them all day. Horses selling by auction. Negro woman sold same way. My reflections while standing by and hearing her cried: ‘ Three hundred and twenty-five dollars for this woman and boy! going! going!’ Woman and boy afterwards weep. Damned, damned slavery! this is one infernal custom which the Virginians have brought into this country. Rude and barbarous appearance of the crowd. Hopkins’s double cutters much wanted here.

“ *April 10.* — Was introduced to several young ladies this afternoon, whose agreeable society formed a most welcome contrast to that of the lower orders of the other sex. Mrs —, an amiable, excellent lady; think that savage ignorance, rudeness, and boorishness, was never so contrasted by female sweetness, affability, and intelligence.

“ *April 12.* — Went this evening to drink tea with

Mr —; was introduced to Mrs —, a most lovely, accomplished, and interesting woman. Her good sense and lively intelligence, of a cast far superior to that of almost any woman I have ever seen. She is most unfortunately unwell, with a nervous complaint, which affects her head. She told me, most feelingly, that the spring, which brings joy to every other being, brings sorrow to her, for, in winter, she is always well.

“ *April 25.* — Breakfasted at Walton’s, thirteen miles from Nashville. This place is a fine rich hollow, watered by a charming, clear creek, that never fails. Went up to Madison’s lick, where I shot three paroquets and some small birds.

“ *April 28.* — Set out early, the hospitable landlord, Isaac Walton, refusing to take any thing for my fare, or that of my horse, saying, ‘ You seem to be travelling for the good of the world ; and I cannot, I will not, charge you any thing. Whenever you come this way, call and stay with me ; you shall be welcome ! ’ This is the first instance of such hospitality which I have met with in the United States.

“ *Wednesday, May 23.* — Left Natchez, after procuring twelve subscribers ; and, having received a kind letter of invitation from William Dunbar, Esq. I availed myself of his goodness, and rode nine miles along the usual road to his house ; where, though confined to his bed by a severe indisposition, I was received with great hospitality and kindness ; had a neat bedroom assigned me, and was requested to consider myself as at home during the time I should find it convenient to stay in exploring this part of the country ! ” *

* The letter above mentioned is worthy of transcription. It is as follows : —

“ SIR, — It is very unfortunate that I should be so much indisposed as to be confined to my bedroom ; nevertheless, I cannot give up the idea of having the pleasure of seeing you, as

In September, 1812, Wilson directed his steps eastward, to visit his subscribers, and increase, if possible, their number. During this excursion, he met with the following ludicrous adventure : — At Haverhill the good people observing a stranger among them, of very inquisitive habits, and who evinced particular earnestness in exploring the country, came to the sage conclusion, that he was a spy from Canada, employed in taking sketches of the place, to facilitate British invasion. It was, therefore, thought essential to the public safety, that he should be apprehended ; and he was accordingly taken into custody : but the magistrate before whom he was brought, on being made acquainted with his character and pursuits, immediately dismissed him, with many apologies for the harmless and patriotic mistake.

In 1812, he was elected a member of the American Philosophical Society ; and in the following year, by the

soon as you find it convenient. The perusal of your first volume of *Ornithology*, lent me by General Wilkinson, has produced in me a very great desire of making your acquaintance.

“ I understand from my boy, that you propose going, in a few days, to New Orleans, where you will see some small cabinets of natural history that may interest you. But, as I presume it is your intention to prosecute your inquiries into the interior of our country, this cannot be done better than from my house as your head-quarters, where every thing will be made convenient to your wishes. My house stands literally in the forest, and your beautiful orioles, with other elegant birds, are our court-yard companions.

“ The bearer attends you with a couple of horses, on the supposition that it may be convenient for you to visit us to-day ; otherwise, he shall wait on you any other day that you shall appoint. — I am respectfully, &c. WILLIAM DUNBAR.

“ *Forest, 26th May, 1810.*”

“ This excellent gentleman,” continues the American biographer, “ whose hospitality was thus promptly excited, has since paid the debt of nature ; and his grateful guest fondly cherished, to the last hour of his existence, the remembrance of those happy moments which were passed in his society, and in that of his amiable and accomplished family.”

month of August, he had succeeded in completing the literary materials of the eighth volume of his splendid work. His progress had been greatly facilitated by his having resided for a considerable part of the years 1811-12 at the Botanic Garden, with his friend Mr Bartram. There, remote from the noise, bustle, and interruption of the town, he was enabled to dispose of his time to the best advantage; occasionally solacing his mind with friendly converse, and recruiting his overworn and sinking frame by healthful rambles through the neighbouring woods. He now enjoyed the satisfaction of knowing that his labours had not been in vain, and that the value of his great work was generally appreciated; for, although emanating from a republican country, there was not at this period a crowned head in Europe who had not become a subscriber to the *American Ornithology*.

In the early part of the year 1813, the seventh volume was published; and its indefatigable author immediately commenced his preparations for the next. But, unfortunately, his intense anxiety to conclude his undertaking impelled him into an excess of toil, which, however inflexible his mind, his bodily strength was unable to bear. This was occasioned chiefly by his finding it impossible to procure sufficiently skilful assistants to relieve him from the labour of colouring his plates. Those who occasionally made the attempt excited his disgust by their glaring caricatures of what were intended to be modest imitations of simple nature. Hence, much of his time was spent in the irksome and harassing employment of inspecting and correcting the imperfections of others; while this waste of his stated periods of labour was supplied by deep encroachments on those hours which Nature claims as her own, consecrates to rest, and will not forego without a struggle; and which all, who would preserve unimpaired the vigour of their mind and body, must respect. Against this intense and destructive appli-

cation, his friends failed not to admonish him ; but to their entreaties he would make this ominous reply,—“ Life is short, and without exertion nothing can be performed.” In the last letter which he is understood to have written to his friends in Paisley, after sympathizing with his correspondent on the death of a son, he makes the following melancholy statement regarding his own declining health :—“ I am myself far from being in good health. Intense application to study has hurt me much. My 8th volume is now in the press, and will be published in November. One volume more will complete the whole.”

At length, amid these accumulated and harassing toils, he was assailed by a disease, which his vital powers were now too much enfeebled successfully to resist. The dysentery, his former foe, renewed its deadly assaults ; and after a few days' illness, notwithstanding the combined efforts of science and friendship, terminated the mortal career of Alexander Wilson, the American Ornithologist, on the 23d of August, 1813, consequently in the 48th year of his age.* “ The moment,” says his brother, who had a few years previously joined him in America, “ that I heard of his sickness, I went to the city, and found him speechless : I caught his hand : he seemed to know me, and that was all. He died next morning, at nine o'clock, and was buried next day with all the honours due to his merit. The whole of the scientific characters, along with the clergy of all denominations, attended the funeral. The Columbia Society of Fine Arts, of which he was a member, walked in procession before the hearse,

* The following was stated as the more immediate cause of Wilson's final illness, by one of his American friends, who visited Scotland some years ago :—While he was sitting in the house of one of his friends, enjoying the pleasures of conversation, he chanced to see a bird of a rare species, for one of which he had long been in search. With his usual enthusiasm he ran out, followed it, swam across a river, over which it had flown, fired at, killed, and obtained the object of his eager pursuit ; but caught a cold, which, bringing on dysentery, ended in his death.

and wore crape round their arms for thirty days." His remains were deposited in the cemetery of the Swedish Church, in the district of Southwark, Philadelphia. While in the enjoyment of health, he had, in a conversation with a friend on the subject of death, expressed a wish to be buried in some rural spot, sacred to peace and solitude ; whither the charms of nature might invite the steps of the votary of the muses and the lover of science, and *where the birds might sing over his grave*. It has been matter of regret to those of his friends to whom was confided the mournful duty of ordering his funeral, that this desire had not been made known to them, otherwise it should have been piously observed. A plain marble tomb marks where his dust reposes, on which appears the following inscription : —

THIS MONUMENT
COVERS THE REMAINS OF
ALEXANDER WILSON,
AUTHOR OF THE
AMERICAN ORNITHOLOGY.
HE WAS BORN IN RENFREWSHIRE, SCOTLAND,
ON THE 6TH JULY, 1766 ;
EMIGRATED TO THE UNITED STATES
IN THE YEAR 1794 ;
AND DIED IN PHILADELPHIA,
OF THE DYSENTERY,
ON THE 23D AUGUST, 1813,
AGED 47.

Part of the eighth volume of the *Ornithology* having been put through the press before the author's death, the remainder was edited by his friend Mr George Ord, F.L.S. and published in January, 1814. The ninth volume made its appearance in May, 1814, the plates having been printed and coloured under Wilson's own superintendence, and the letter-press supplied by Mr Ord,

who was well qualified to perform this office for his deceased friend, having been his companion in several expeditions for procuring specimens, and collecting the information from which the descriptions of the birds were drawn up. This concluding volume contained a Life of Wilson, from the pen of the editor.

As it has been all along our object to place Wilson before the reader, either as he represented himself in his journals and letters, or as he was represented by those who, being personally acquainted with him, had the best means of knowing him accurately, we think it proper to make some extracts from the character which his American biographer has drawn, evidently from his own knowledge.

"It may not," says he, "be going too far to maintain, that in no age or nation has there ever arisen one more eminently qualified for a naturalist, than the subject of these memoirs. He was not only an enthusiastic admirer of the works of creation; but he was consistent in research, and permitted no dangers or fatigues to abate his ardour, or relax his exertions. He inured himself to hardships by frequent and laborious exercise, and was never more happy than when employed in some enterprize, which promised, from its difficulties, the novelties of discovery. Whatever was obtained with ease, appeared to him comparatively uninteresting; the acquisitions of labour alone seemed worthy of his ambition. He was no closet philosopher; he was indebted for his ideas, not to books, but to nature. His perseverance was uncommon; and, when engaged in any particular pursuit, he never would relinquish it while there was a chance of success. His powers of observation were acute, and his judgment seldom erred. That his industry was great, his work will ever testify; and our astonishment may well be excited that so much should have been performed in so short time. A single individual, *without patron, fortune, or recompense*, accomplished, in the short space of *seven year*

as much as the combined body of European naturalists have taken a *century* to achieve. The collection and discovery of these birds were the fruits of many months of unwearied research : amongst forests, swamps, and morasses, exposed to all the dangers, privations, and fatigues incident to such an undertaking. What but a remarkable passion for the pursuit, joined with an ardent desire of fame, could have supported a solitary individual in labours of body and mind, compared to which the bustling avocations of common life are mere holiday activity or recreation !

“ Mr Wilson was possessed of the nicest sense of honour. In all his dealings, he was not only scrupulously just, but highly generous. His veneration for truth was exemplary. His disposition was social and affectionate. His benevolence was extensive. He was remarkably temperate in eating and drinking ; his love of retirement preserving him from the contaminating influence of the convivial circle. But, as no one is perfect, Mr Wilson partook, in a small degree, of the weakness of humanity. He was of the *genus irritabile*, and was obstinate in opinion. It ever gave him pleasure to acknowledge error, when the conviction resulted from his own judgment alone ; but he could not endure to be told of his mistakes. Hence his associates had to be sparing of their criticisms, through a fear of forfeiting his friendship. With almost all his friends, he had occasionally, arising from a collision of opinion, some slight misunderstanding, which was soon passed over, leaving no disagreeable impression. But an act of disrespect, or wilful injury, he would seldom forgive.”

Thus far the American biographer ; and, though the sketch be one drawn by the hand of a friend, its outline is so consistent with the tenor of his life, that we cannot doubt its accuracy. In personal appearance, he is described as having been tall, (five feet ten or eleven

inches,) handsome and vigorous, inclining to the slender, rather than the athletic. Even when a poor Paisley weaver, he was remarkable for neatness of appearance, and for an air superior to his condition—as if the native dignity of his mind shone through his mien and bearing. His countenance, tinged with melancholy, was expressive of deep reflection; his eye, penetrating and intelligent, especially when engaged in conversation. His eyebrows were strikingly arched, and his hair, which was dark and glossy, hung down over his shoulders.* Strong good sense, high moral worth, and a lofty spirit of independence, were the characteristic features of his mind. His conversational powers were greatly superior to those of the men with whom he was accustomed to associate; and he acquired, in consequence, like Burns, somewhat of a dictatorial manner. There was a quickness, a strength, and an originality in his remarks, indicating mental endowments of a very high order; and where did ever such endowments exist, without their possessor being conscious of their presence? In no respect was his character more estimable,

* Such is the account of his personal appearance, which we have been able to draw from the recollections of his friends in this country; and it seems borne out by the engraving prefixed to this volume, the original of which was painted by James Craw, when Wilson was in his twenty-second year. The particulars preserved by his American biographer possess no little interest, exhibiting him as he was at a more advanced period of life, when moving in a more intelligent class of society than his youth had been accustomed to, and engaged in his favourite researches among the woods: "In his person," says Mr Ord, "he was of a middle stature, of a thin habit of body; his cheek-bones projected, and his eyes, though hollow, displayed considerable vivacity and intelligence; his complexion was sallow, his mien thoughtful; his features were coarse, and there was a dash of vulgarity in his physiognomy, which struck the observer at the first view, but which failed to impress one on acquaintance. His walk was quick when travelling,—so much so, that it was difficult for a companion to keep pace with him; but when in the forest, in pursuit of birds, he was deliberate and attentive—he was, as it were, all eyes, and all ears."

than in the strength, generosity, and permanence of his friendships. Notwithstanding his poetical feelings and aspirations, love, as has already been remarked, seemed to have no abiding residence in his bosom, if indeed its power had ever made any sensible encroachment on that busy domain. Though he mingled much in society, and that, at one period of his life, by no means very select, he was a stranger to every species of dissipation ; and, while he passed through many scenes of trial and temptation, he bore away all the good that might be obtained from each, without incurring the contamination of their evil. Perhaps his high moral purity arose, in a great measure, from the absence of overmastering passion ; and this was the result of that mental structure which constituted *intellect* his predominating faculty. The same may be the explanation of that apparent contradiction in his character—a poet, and not a lover. In elucidation of this conjecture, we beg to offer a very few remarks, considering it a mental phenomenon well worth investigation.

The two leading principles of Wilson's mind unquestionably were, the love of fame, and the love of knowledge, both resulting from the conscious possession of high intellect. The union of these principles tended to give his character an ideal elevation, and to impress it with a strong love of power, and desire of eminence. In the mind where these predominate, it is obvious that there can be little space for the abode of any aim or passion of less aspiring, or of weaker nature. Such a mind pleasure cannot tempt astray, nor love subdue. Yet the love of fame is by no means incompatible with ardent natural affection, such as that of children to their parents, because its source lies deeper in our nature, and was fully formed long before the love of fame could be either felt or understood ; and because both may be gratified at once, for while a man rises himself, he can elevate those whom he loves. We have seen this hope cheer and support

Wilson, during his wanderings through the pathless forests of America. We have known it fondly cherished, as the dearest possible recompense, in those who, like him, had the structure of their own fortunes to build. And all that we contend for is, that while these strong principles cannot banish early and deep-seated filial affection, they prevent the entrance of newer and weaker attachments; and thus, we think, a solution may be given of what otherwise appears contradictory in Wilson's character.

With regard to the scientific and literary merit of his great work, it is neither our province nor our inclination to speak; the one being sufficiently cared for by the very distinguished naturalist, by whom this edition is prepared, while the other must of itself be evident to every reader. This much, however, we may say, that from the prefaces and descriptions, passages might be selected, which, for elegance of language, graceful ease, and graphic power, could scarcely be surpassed by any within the compass of British literature. We might instance his description of the Mocking Bird, and of the Bald Eagle; and nothing can be finer than the simple and natural beauty of the general preface to his first volume. There may be found also, throughout the body of the work, many striking incidents, illustrative at once of the man, and of the difficulties to which he was subjected, during his toilsome and hazardous undertaking; but these we have considered it unnecessary and inexpedient to extract, as they will be read with peculiar interest in the places where they naturally occur.

To peruse the annals of real life is, perhaps, at once the most entertaining and the most useful mode of prosecuting the study of man. And of such annals the most instructing are those in which we see persevering efforts overcome the most formidable obstacles, and distinguished eminence gradually winning its arduous ascent above the mists of obscurity and depression. For it is no illegiti-

mate conclusion, which the aspiring mind will draw from such examples,—that, what has been accomplished, may again be confidently undertaken. In this respect, the life of Wilson, furnishing a striking instance of successful perseverance, may contribute to the general good, by fostering the early hopes of humble but aspiring merit. There is yet another, and a more important truth, which it is well adapted to teach,—that the main cause why the course of genius is so often crossed by melancholy aberrations, impeded by grovelling tendencies, or prematurely closed in guilt and misery, is because its capacities far transcend the usual pursuits and employments of its station, impelling it to rush from object to object with reckless impetuosity, as each after each crumbles in its giant grasp. Thus, in the marked contrast between Wilson's early history, when he led an irregular, unsettled, and wandering life, and that of his latter years, when his mind became fixed upon an object sufficient to engross its whole powers, and demand its whole energies,—which object he thenceforward prosecuted with the most indefatigable and unswerving resolution,—we see the necessity and the wisdom of early entering upon a sufficiently ennobling and expanding career, especially when the mind itself is noble and expansive. Had his aspiring mind never found any such sufficiently engrossing object, there is little reason to doubt, that his name would finally have been found in the melancholy catalogue of unfortunate men of genius. And we conclude our memoir with one remark,—that while it may interest the philosopher to observe the spontaneous working of a mind powerfully and peculiarly constructed, to humble merit it furnishes this valuable lesson, that upright integrity, unbending determination, and unwearied perseverance, will, sooner or later, surmount every obstacle, and crown their possessor with the accomplishment of all his wishes.

W. M. H.

PREFACE.

THE whole use of a Preface seems to be, either to elucidate the nature and origin of the work, or to invoke the clemency of the reader. Such observations as have been thought necessary for the former, will be found in the Introduction; extremely solicitous to obtain the latter, I beg leave to relate the following anecdote :—

In one of my late visits to a friend in the country, I found their youngest son, a fine boy of eight or nine years of age, who usually resides in town for his education, just returning from a ramble through the neighbouring woods and fields, where he had collected a large and very handsome bunch of wild flowers, of a great many different colours; and, presenting them to his mother, said, with much animation in his countenance, “ Look, my dear mamma, what beautiful flowers I have found growing on our place! Why, all the woods are full of them! red, orange, blue, and ’most every

colour. Oh! I can gather you a whole parcel of them, much handsomer than these, all growing in our own woods! Shall I, mamma? Shall I go and bring you more?" The good woman received the bunch of flowers with a smile of affectionate complacency; and, after admiring for some time the beautiful simplicity of nature, gave her willing consent; and the little fellow went off, on the wings of ecstasy, to execute his delightful commission.

The similarity of this little boy's enthusiasm to my own, struck me; and the reader will need no explanations of mine to make the application. Should my country receive with the same gracious indulgence the specimens which I here humbly present her; should she express a desire for me *to go and bring her more*, the highest wishes of my ambition will be gratified; for, in the language of my little friend, *our whole woods are full of them!* and I can collect hundreds more, *much handsomer than these*.

ALEXANDER WILSON.

PHILADELPHIA,
October 1, 1803.

INTRODUCTION.

IN the commencement of a work of such magnitude, and so novel in this country, some account will necessarily be expected, of the motives of the author, and of the nature and intended execution of the work. As to the former of these, it is respectfully submitted, that, amusement blended with instruction, the correction of numerous errors which have been introduced into this part of the natural history of our country, and a wish to draw the attention of my fellow-citizens, occasionally, from the discordant jarrings of politics, to a contemplation of the grandeur, harmony, and wonderful variety of nature, exhibited in this beautiful portion of the animal creation, are my principal, and almost only motives, in the present undertaking. I will not deny that there may also be other incitements. Biassed, almost from infancy, by a fondness for

birds, and little else than an enthusiast in my researches after them, I feel happy to communicate my observations to others, probably from the mere principle of self-gratification, that source of so many even of our most virtuous actions ; but I candidly declare, that lucrative views have nothing to do in the business. In all my wild wood rambles, these never were sufficient either to allure me to a single excursion, to discourage me from one, or to engage my pen or pencil in the present publication. My hopes, on this head, are humble enough ; I ask only support equal to my merits, and to the laudability of my intentions. I expect no more ; I am not altogether certain even of this. But, leaving the issue of these matters to futurity, I shall, in the meantime, comfort myself with the good old adage, “ Happy are they who expect nothing, for they shall not be disappointed.”

As to the nature of the work, it is intended to comprehend a description and representation of every species of our native birds, from the shores of St Laurence to the mouths of the Mississippi, and from the Atlantic ocean to the interior of Louisiana : these will be engraved in a style superior to any thing of the kind hitherto published ; and coloured from nature, with the most scrupulous adherence to the true tints of the original.

But as time may prey on the best of colours, what is necessary, in this respect, will, by no means, be omitted, that the figures and descriptions may mutually corroborate each other. It is also my design to enter more largely than usual into the manners and disposition of each respective species ; to become, as it were, their faithful biographer, and to delineate their various peculiarities, in character, song, building, economy, &c. as far as my own observations have extended, or the kindness of others may furnish me with materials.

The Ornithology of the United States exhibits a rich display of the most splendid colours, from the green, silky, gold bespangled down of the minute humming bird, scarce three inches in extent, to the black coppery wings of the gloomy condor, of sixteen feet, who sometimes visits our northern regions ; a numerous and powerful band of songsters, that, for sweetness, variety, and melody, are surpassed by no country on earth ; an ever-changing scene of migration from torrid to temperate, and from northern to southern regions, in quest of suitable seasons, food, and climate ; and such an amazing diversity in habit, economy, form, disposition, and faculties, so uniformly hereditary in each species, and so completely adequate to their peculiar wants and convenience, as to overwhelm

us with astonishment at the power, wisdom, and beneficence of the Creator !

In proportion as we become acquainted with these particulars, our visits to, and residence in the country, become more and more agreeable. Formerly, on such occasions, we found ourselves in solitude, or, with respect to the feathered tribes, as it were in a strange country, where the manners, language, and faces of all, were either totally overlooked, or utterly unknown to us : now, we find ourselves among interesting and well known neighbours and acquaintances ; and, in the notes of every songster, recognize, with satisfaction, the voice of an old friend and companion. A study thus tending to multiply our enjoyments at so cheap a rate, and to lead us, by such pleasing gradations, to the contemplation and worship of the Great First Cause, the Father and Preserver of all, can neither be idle nor useless, but is worthy of rational beings, and, doubtless, agreeable to the Deity.

In order to obtain a more perfect knowledge of birds, naturalists have divided them into classes, orders, genera, species, and, varieties ; but in doing this, scarcely two have agreed on the same mode of arrangement : and this has indeed proved a source of great perplexity to the student. Some

have increased the number of orders to an unnecessary extent, multiplied the genera, and, out of mere varieties, produced what they supposed to be entire new species. Others, sensible of the impropriety of this, and wishing to simplify the science as much as possible, have reduced the orders and genera to a few, and have thus thrown birds, whose food, habits, and other characteristic features are widely different, into one and the same tribe, and thereby confounded our perception of that beautiful gradation of affinity and resemblance, which Nature herself seems to have been studious of preserving throughout the whole. One principal cause of the great diversity of classifications appears to be owing to the neglect, or want of opportunity, in these writers, of observing the manners of the living birds, in their unconfined state, and in their native countries. As well might philosophers attempt to class mankind into their respective religious denominations, by a mere examination of their physiognomy, as naturalists to form a correct arrangement of animals, without a knowledge of these necessary particulars.

It is only by personal intimacy, that we can truly ascertain the character of either, more especially that of the feathered race, noting their particular haunts, modes of constructing their nests, manner

of flight, seasons of migration, favourite food, and numberless other minutiae, which can only be obtained by frequent excursions in the woods and fields, along lakes, shores, and rivers, and requires a degree of patience and perseverance which nothing but an enthusiastic fondness for the pursuit can inspire.

The greatest number of the descriptions in the following work, particularly those of the nests, eggs, and plumage, have been written in the woods, with the subjects in view, leaving as little as possible to the lapse of recollection. As to what relates to the manners, habits, &c. of the birds, the particulars on these heads are the result of personal observation, from memorandums taken on the spot; if they differ, as they will on many points, from former accounts, this at least can be said in their behalf, that a single fact has not been advanced which the writer was not himself witness to, or received from those on whose judgment and veracity he believed reliance could be placed. When his own stock of observations has been exhausted, and not till then, he has had recourse to what others have said on the same subject, and all the most respectable performances of a similar nature have been consulted, to which access could be obtained; not neglecting the labours of his predecessors in this

particular path, Messrs Catesby and Edwards, whose memories he truly respects. But as a sacred regard to truth requires that the errors or inadvertencies of those authors, as well as of others, should be noticed, and corrected, let it not be imputed to unworthy motives, but to its true cause,—a zeal for the promotion of that science, in which these gentlemen so much delighted, and for which they have done so much.

From the writers of our own country the author has derived but little advantage. The first considerable list of our birds was published in 1787, by Mr Jefferson, in his celebrated “Notes on Virginia,” and contains the names of a hundred and nine species, with the designations of Linnæus and Catesby, and references to Buffon. The next, and by far the most complete that has yet appeared, was published in 1791, by Mr William Bartram, in his *Travels through North and South Carolina, &c.* in which two hundred and fifteen different species are enumerated, and concise descriptions and characteristics of each added in Latin and English. Dr Barton, in his *Fragments of the Natural History of Pennsylvania*, has favoured us with a number of remarks on this subject; and Dr Belknap, in his *History of New Hampshire*, as well as Dr Williams, in that of Vermont, have

each enumerated a few of our birds. But these, from the nature of the publications in which they have been introduced, can be considered only as catalogues of names, without the detail of specific particulars, or the figured and coloured representations of the birds themselves. This task, the hardest of all, has been reserved for one of far inferior abilities, but not of less zeal. With the example of many solitary individuals, in other countries, who have succeeded in such an enterprise, he has cheerfully engaged in the undertaking, trusting for encouragement solely to the fidelity with which it will be conducted.

AMERICAN ORNITHOLOGY.



ORDER I.

ACCIPITRES, LINNÆUS.

FAMILY I.

VULTURINI, ILLIGER.

GENUS I.—*CATHARTES*, ILLIGER.

1. *CATHARTES AURA*, ILLIGER. — *VULTUR AURA*, WILSON.

TURKEY VULTURE, OR TURKEY BUZZARD.

WILSON, PL. LXXV. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THIS species is well known throughout the United States, but is most numerous in the southern section of the Union. In the northern and middle states, it is partially migratory, the greater part retiring to the south on the approach of cold weather. But numbers remain all the winter in Maryland, Delaware, and New Jersey; particularly in the vicinity of the large rivers and the ocean, which afford a supply of food at all seasons.

In New Jersey,* the turkey buzzard hatches in May, the deep recesses of the solitary swamps of that state affording situations well suited to the purpose. The female is at no pains to form a nest with materials; but, having chosen a suitable place, which is either a truncated hollow tree, an excavated stump, or log, she lays on the rotten wood from two to four eggs, of a dull

* Mr Ord mentions New Jersey in particular, as in that state he has visited the breeding places of the turkey buzzard, and can therefore speak with certainty of the fact. Pennsylvania, it is more than probable, affords situations equally attractive, which are also tenanted by this vulture, for hatching and rearing its young.

dirty white, or pale cream colour, splashed all over with chocolate, mingled with blackish touches, the blotches largest and thickest towards the great end; the form something like the egg of a goose, but blunter at the small end: length two inches and three quarters, breadth two inches. The male watches often while the female is sitting; and, if not disturbed, they will occupy the same breeding place for several years. The young are clothed with a whitish down, similar to that which covers young goslings. If any person approach the nest, and attempt to handle them, they will immediately vomit such offensive matter, as to compel the intruder to a precipitate retreat.

The turkey buzzards are gregarious, peaceable and harmless; never offering any violence to a living animal, or, like the plunderers of the *falco* tribe, depriving the husbandman of his stock. Hence, though, in consequence of their filthy habits, they are not beloved, yet they are respected for their usefulness; and in the southern states, where they are most needed, they, as well as the black vultures, are protected by a law, which imposes a fine on those who wilfully deprive them of life. They generally roost in flocks, on the limbs of large trees; and they may be seen on a summer morning, spreading out their wings to the rising sun, and remaining in that posture for a considerable time. Pennant conjectures, that this is "to purify their bodies, which are most offensively fetid." But is it reasonable to suppose, that *that* effluvia can be offensive to them, which arises from food perfectly adapted to their nature, and which is constantly the object of their desires? Many birds, and particularly those of the granivorous kind, have a similar habit, which doubtless is attended with the same exhilarating effects, as an exposure to the pure air of the morning has on the frame of one just risen from repose.

These birds, unless when rising from the earth, seldom flap their wings, but sweep along in ogees, and dipping and rising lines, and move with great rapidity. They are often seen in companies soaring at an immense

height, particularly previous to a thunder storm. Their wings are not spread horizontally, but form a slight angle with the body upwards, the tips having an upward curve. Their sense of smelling is astonishingly exquisite, and they never fail to discover carrion, even when at the distance of several miles from it. When once they have found a carcass, if not molested, they will not leave the place until the whole is devoured. At such times they eat so immoderately, that frequently they are incapable of rising, and may be caught without much difficulty; but few that are acquainted with them will have the temerity to undertake the task. A man in the state of Delaware, a few years since, observing some turkey buzzards regaling themselves upon the carcass of a horse, which was in a highly putrid state, conceived the design of making a captive of one, to take home for the amusement of his children. He cautiously approached, and, springing upon the unsuspecting group, grasped a fine plump fellow in his arms, and was bearing off his prize in triumph; when, lo! the indignant vulture disgorged such a torrent of filth in the face of our hero, that it produced all the effects of the most powerful emetic, and for ever cured him of his inclination for turkey buzzards.

On the continent of America this species inhabits a vast range of territory, being common,* it is said, from Nova Scotia to Terra del Fuego.† How far to the northward of North California‡ they are found we

* * In the northern states of our union, the turkey buzzard is only occasionally seen: it is considered a rare bird by the inhabitants.

† "Great numbers of a species of vulture, commonly called carrion crow by the sailors, (*vultur aura*,) were seen upon this island, (New-year's Island, near Cape Horn, lat. 55 S. 67 W.) and probably feed on young seal cubs, which either die in the birth, or which they take an opportunity to seize upon." Cook calls them turkey buzzards. Forster's *Voyage*, ii, p. 516, 4to. London, 1777.

• We strongly suspect that the sailors were correct, and that these were black vultures, or carrion crows.

‡ Pêrouse saw a bird, which he calls the black vulture, probably the *vultur aura*, at Monterey Bay, North California. *Voyage*, ii, p. 203.

are not informed; but it is probable that they extend their migrations to the Columbia, allured thither by the quantity of dead salmon which, at certain seasons, line the shores of that river.

They are numerous in the West India islands, where they are said to be "far inferior in size to those of North America."* This leads us to the inquiry, whether or no the present species has been confounded, by all the naturalists of Europe, with the black vulture, or carrion crow, which is so common in the southern parts of our continent. If not, why has the latter been totally overlooked in the numerous ornithologies and nomenclatures with which the world has been favoured, when it is so conspicuous and remarkable, that no stranger visits South Carolina, Georgia, or the Spanish provinces, but is immediately struck with the novelty of its appearance? We can find no cause for the turkey buzzards of the islands† being smaller than ours, and must conclude that the carrion crow, which is of less size, has been mistaken for the former. In the history which follows, we shall endeavour to make it evident that the species described by Ulloa, as being so numerous in South America, is no other than the black vulture. The ornithologists of Europe, not aware of the existence of a new species, have, without investigation, contented themselves with the opinion, that the bird called by the above mentioned traveller the gallinazo, was the *vultur aura*, the subject of our present history. This is the more inexcusable, as we expect in naturalists

* Pennant, *Arctic Zoology*.

† The vulture which Sir Hans Sloane has figured and described, and which he says is common in Jamaica, is undoubtedly the *vultur aura*. "The head, and an inch in the neck, are bare, and without feathers, of a flesh colour, covered with a thin membrane, like that of turkeys, with which the most part of the bill is covered likewise; bill (below the membrane) more than an inch long, whitish at the point; tail broad, and nine inches long; legs and feet three inches long; it flies exactly like a kite, and preys on nothing living; but when dead, it devours their carcases, whence they are not molested." Sloane, *Natural History*, Jamaica, vol. ii. p. 294, folio.

a precision of a different character from that which distinguishes vulgar observation. If the Europeans had not the opportunity of comparing living specimens of the two species, they at least had preserved subjects, in their extensive and valuable museums, from which a correct judgment might have been formed. The figure in the *Planches enluminées*, though wretchedly drawn and coloured, was evidently taken from a stuffed specimen of the black vulture.

Pennant observes, that the turkey vultures "are not found in the northern regions of Europe or Asia, at least in those latitudes which might give them a pretence of appearing there. I cannot find them," he continues, "in our quarter of the globe higher than the Grison Alps,* or Silesia,† or at farthest Kalish, in Great Poland."‡

Kolben, in his account of the Cape of Good Hope, mentions a vulture, which he represents as very voracious and noxious. "I have seen," says he, "many carcasses of cows, oxen, and other tame creatures, which the eagles had slain. I say carcasses, but they were rather skeletons, the flesh and entrails being all devoured, and nothing remaining but the skin and bones. But the skin and bones being in their natural places, the flesh being, as it were, scooped out, and the wound by which the eagles enter the body being ever in the belly, you would not, till you had come up to the skeleton, have had the least suspicion that any such matter had happened. The Dutch at the Cape frequently call those eagles, on account of their tearing out the entrails of beasts, *strunt-vogels*, i. e. dung-birds. It frequently happens, that an ox that is freed from the plough, and left to find his way home, lies down to rest himself by the way: and if he does so, it is a great chance but the eagles fall upon him and devour him. They attack

* Willughby, *Ornithology*, p. 67.

† Schwenckfeldt, *av. Silesia*, 375.

‡ Rzaczynski, *Hist. Nat. Poland*, 298.

an ox or cow in a body, consisting of an hundred and upwards."*

Buffon conjectures, that this murderous vulture is the turkey buzzard, and concludes his history of the latter with the following invective against the whole fraternity:—"In every part of the globe they are voracious, slothful, offensive, and hateful, and, like the wolves, are as noxious during their life, as useless after their death."

If Kolben's account of the ferocity of his eagle,† or vulture, be just, we do not hesitate to maintain that that vulture, is not the turkey buzzard, as, amongst the whole feathered creation, there is none, perhaps, more innoxious than this species; and that it is beneficial to the inhabitants of our southern continent, even Buffon himself, on the authority of Desmarchais, asserts. But we doubt the truth of Kolben's story; and, in this place, must express our regret, that enlightened naturalists should so readily lend an ear to the romances of travellers, who, to excite astonishment, freely give currency to every ridiculous tale, which the designing or the credulous impose upon them. We will add farther, that the turkey buzzard seldom begins upon a carcass, until invited to the banquet by that odour, which in no ordinary degree renders it an object of delight.

The turkey vulture is two feet and a half in length, and six feet two inches in breadth; the bill from the corner of the mouth is almost two inches and a half long, of a dark horn colour for somewhat more than an inch from the tip, the nostril a remarkably wide slit, or opening through it; the tongue is greatly concave, cartilaginous, and finely serrated on its edges; ears inclining to oval; eyes dark, in some specimens reddish hazel;

* Medley's *Kolben*, vol. ii, p. 135.

† These bloodthirsty eagles, we conjecture, are black vultures, they being in the habit of mining into the bellies of dead animals, to feast upon the contents. With respect to their attacking those that are living, as the vultures of America are not so heroic, it is a fair inference that the same species elsewhere is possessed of a similar disposition.

the head and neck, for about an inch and a half below the ears, are furnished with a reddish wrinkled skin, beset with short black hairs, which also cover the bill as far as the anterior angle of the nostril, the neck not so much caruncled as that of the black vulture; from the hind head to the neck feathers the space is covered with down of a sooty black colour; the fore part of the neck is bare as far as the breast bone, the skin on the lower part, or pouch, very much wrinkled; this naked skin is not discernible without removing the plumage which arches over it; the whole lower parts, lining of the wings, rump, and tail coverts, are of a sooty brown, the feathers of the belly and vent hairy; the plumage of the neck is large and tumid, and, with that of the back and shoulders, black; the scapulars and secondaries are black on their outer webs, skirted with tawny brown, the latter slightly tipped with white; primaries and their coverts plain brown, the former pointed, third primary the longest; coverts of the secondaries, and lesser coverts, tawny brown, centred with black, some of the feathers at their extremities slightly edged with white; the tail is twelve inches long, rounded, of a brownish black, and composed of twelve feathers, which are broad at their extremities; inside of wings and tail light ash; the wings reach to the end of the tail; the whole body and neck beneath the plumage are thickly clothed with a white down, which feels like cotton; the shafts of the primaries are yellowish white above, and those of the tail brown, both pure white below; the plumage of the neck, back, shoulders, scapulars, and secondaries, is glossed with green and bronze, and has purple reflections; the thighs are feathered to the knees; feet considerably webbed; middle toe three inches and a half in length, and about an inch and a half longer than the outer one, which is the next longest; the sole of the foot is hard and rough; claws dark horn colour; the legs are of a pale flesh colour, and three inches long. The claws are larger, but the feet slenderer than those of the carrion crow. The bill of the male is pure white; in some specimens the upper mandible is tipped with black.

There is little or no other perceptible difference between the sexes.

The bird from which the foregoing description was taken, was shot for this work, at Great Egg Harbour, on the 30th of January. It was a female, in perfect plumage, excessively fat, and weighed five pounds one ounce, avoirdupois. On dissection, it emitted a slight musky odour.

The vulture is included in the catalogue of those fowls declared unclean and an abomination by the Levitical law, and which the Israelites were interdicted eating.* We presume that this prohibition was religiously observed, so far at least as it related to the vulture, from whose flesh there arises such an unsavoury odour, that we question if all the sweetening processes ever invented could render it palatable to Jew, Pagan, or Christian.

Since the above has been ready for the press, we have seen the History of the Expedition under the command of Louis and Clark, and find our conjecture with respect to the migration of the turkey buzzard verified several of this species having been observed at Bran Island, near the Falls of the Columbia.†

2. *CATHARTES ATRATUS*.—*VULTUR ATRATUS*, WILSON.

BLACK VULTURE, OR CARRION CROW OF AMERICA.

WILSON, PL. LXXV. FIG. II. — EDINBURGH COLLEGE MUSEUM.

ALTHOUGH an account of this vulture was published more than twenty years ago, by Mr William Bartram wherein it was distinctly specified as a different species from the preceding, yet it excites our surprise that th

* *Leviticus*, xi, 14. *Deuteronomy*, xiv, 13.

† *History of the Expedition*. vol. ii. p. 233.

ornithologists should have persisted in confounding it with the turkey buzzard; an error which can hardly admit of extenuation, when it is considered what a respectable authority they had for a different opinion.

The habits of this species are singular. In the towns and villages of the southern states, particularly Charleston and Georgetown, South Carolina, and in Savannah, Georgia, the carrion crows may be seen either sauntering about the streets; sunning themselves on the roofs of the houses, and the fences; or, if the weather be cold, cowering around the tops of the chimneys, to enjoy the benefit of the heat, which to them is a peculiar gratification. They are protected by a law, or usage; and may be said to be completely domesticated, being as common as the domestic poultry, and equally familiar. The inhabitants generally are disgusted with their filthy, voracious habits; but notwithstanding, being viewed as contributive to the removal of the dead animal matter, which, if permitted to putrify during the hot season, would render the atmosphere impure, they have a respect paid them as scavengers, whose labours are subservient to the public good. It sometimes happens, that, after having gorged themselves, these birds vomit down the chimneys, which must be intolerably disgusting, and must provoke the ill will of those whose hospitality is thus required.

The black vultures are indolent, and may be observed in companies loitering for hours together in one place. They do not associate with the turkey buzzards; and are much darker in their plumage than the latter. Their mode of flight also varies from that of the turkey buzzard. The black vulture flaps its wings five or six times rapidly, then sails with them extended nearly horizontally; the turkey buzzard seldom flaps its wings, and when sailing, they form an angle with the body upwards. The latter, though found in the vicinity of towns, rarely ventures within them, and then always appearing cautious of the near approach of any one. It is not so impatient of cold as the former, and is

likewise less lazy. The black vulture, on the ground, hops along very awkwardly; the turkey buzzard, though seemingly inactive, moves with an even gait. The latter, unless pressed by hunger, will not eat of a carcass until it becomes putrid; the former is not so fastidious, but devours animal food without distinction.

It is said that the black vultures sometimes attack young pigs, and eat off their ears and tails; and we have even heard stories of their assaulting feeble calves and picking out their eyes. But these instances are rare: if otherwise, they would not receive that countenance or protection which is so universally extended to them, in the states of South Carolina and Georgia, where they abound.

"This undescribed species," says Mr Bartram, "is a native of the maritime parts of Georgia and of the Floridas, where they are called carrion crows. They flock together, and feed upon carrion, but do not mix with the turkey buzzard, (*vultur aura*.) Their wings are broad, and round at their extremities. Their tail, which they spread like a fan when on the wing, is remarkably short. They have a heavy, laborious flight, flapping their wings, and sailing alternately. The whole plumage is of a sable, or mourning colour."*

In one of Mr Wilson's journals, I find an interesting detail of the greedy and disgusting habits of this species; and shall give the passage entire, in the same unadorned manner in which it is written.

"February 21, 1809. — Went out to Hampstead† this forenoon. A horse had dropped down in the street, in convulsions; and dying, it was dragged out to Hampstead, and skinned. The ground, for a hundred yards around it, was black with carrion crows; many sat on the tops of sheds, fences, and houses within sight; sixty or eighty on the opposite side of a small run. I counted at one time two hundred and thirty-seven, but I believe

* MS. in the possession of Mr Ord.

† Near Charleston, South Carolina

there were more, besides several in the air over my head, and at a distance. I ventured cautiously within thirty yards of the carcass, where three or four dogs, and twenty or thirty vultures, were busily tearing and devouring. Seeing them take no notice, I ventured nearer, till I was within ten yards, and sat down on the bank. Still they paid little attention to me. The dogs being sometimes accidentally flapped with the wings of the vultures, would growl and snap at them, which would occasion them to spring up for a moment, but they immediately gathered in again. I remarked the vultures frequently attack each other, fighting with their claws or heels, striking like a cock, with open wings, and fixing their claws in each other's head. The females, and, I believe, the males likewise, made a hissing sound, with open mouth, exactly resembling that produced by thrusting a red hot poker into water; and frequently a snuffing, like a dog clearing his nostrils, as I suppose they were theirs. On observing that they did not heed me, I stole so close that my feet were within one yard of the horse's legs, and again sat down. They all slid aloof a few feet; but, seeing me quiet, they soon returned as before. As they were often disturbed by the dogs, I ordered the latter home: my voice gave no alarm to the vultures. As soon as the dogs departed, the vultures crowded in such numbers, that I counted at one time thirty-seven on and around the carcass, with several within; so that scarcely an inch of it was visible. Sometimes one would come out with a large piece of the entrails, which in a moment was surrounded by several others, who tore it in fragments, and it soon disappeared. They kept up the hissing occasionally. Some of them having their whole legs and heads covered with blood, presented a most savage aspect. Still as the dogs advanced, I would order them away, which seemed to gratify the vultures; and one would pursue another to within a foot or two of the spot where I was sitting. Sometimes I observed them stretching their necks along the ground, as if to press the food downwards."

The carrion crow is seldom found on the Atlantic.

to the northward of Newbern, North Carolina,* but inhabits the whole continent, to the southward, as far as Cape Horn. Don Ulloa, in noticing the birds of Carthagera, gives an account of a vulture, which we shall quote, in order to establish the opinion, advanced in the preceding history, that it is the present species. We shall afterwards subjoin other testimony in confirmation of this opinion. With respect to the marvellous tale of their attacking the cattle in the pastures, it is too improbable to merit a serious refutation.

“It would be too great an undertaking to describe all the extraordinary birds that inhabit this country; but I cannot refrain from noticing that to which they give the name of *gallinazo*, from the resemblance it has to the turkeyhen. This bird is of the size of a peahen, but its head and neck are something larger. From the crop to the base of the bill it has no feathers: this space is surrounded with a wrinkled, glandulous, and rough skin, which forms numerous warts, and other similar inequalities. This skin is black, as is the plumage of the bird, but usually of a brownish black. The bill is well proportioned, strong, and a little hooked. These birds are familiar in Carthagera; the tops of the houses are covered with them; it is they which cleanse the city of all its animal impurities. There are few animals killed whereof they do not obtain the offals; and when this food is wanting, they have recourse to other filth. Their sense of smelling is so acute, that it enables them to trace carrion at the distance of three or four leagues, which they do not abandon until there remains nothing but the skeleton.

“The great number of these birds found in such hot climates, is an excellent provision of nature; as, otherwise, the putrefaction caused by the constant and excessive heat, would render the air insupportable to human life. When first they take wing, they fly heavily; but

* Since writing the above, I have been informed by a gentleman who resides at Detroit, on Lake Erie, that the carrion crow is common at that place.

terwards, they rise so high as to be entirely invisible. On the ground they walk sluggishly. Their legs are well proportioned; they have three toes forward, turning inwards, and one in the inside, inclining a little backwards, so that, the feet interfering, they cannot walk with any agility, but are obliged to hop: each toe is furnished with a long and stout claw.

“ When the gallinazos are deprived of carrion, or food in the city, they are driven by hunger among the cattle of the pastures. If they see a beast with a sore on the back, they alight on it, and attack the part affected; and it avails not that the poor animal *throws itself upon the ground*, and endeavours to intimidate them by its bellowing: *they do not quit their hold!* and by means of their bill they so soon enlarge the wound, that the animal finally becomes their prey.”*

The account, from the same author, of the beneficial effects resulting from the fondness of the vultures for the eggs of the alligator, merits attention:—

“ The gallinazos are the most inveterate enemies of the alligators, or rather they are extremely fond of their eggs, and employ much stratagem to obtain them. During the summer, these birds make it their business to watch the female alligators; for it is in that season that they deposit their eggs in the sand of the shores of the rivers, which are not then overflowed. The gallinazo conceals itself among the branches and leaves of a tree, so as to be unperceived by the alligator; and permits the eggs quietly to be laid, not even interrupting the precautions that she takes to conceal them. But she is no sooner under the water, than the gallinazo darts upon the nest; and, with its bill, claws, and wings, uncovers the eggs, and gobbles them down, leaving nothing but the shells. This banquet would, indeed, richly reward its patience, did not a multitude of gallinazos join the fortunate discoverer, and share in the spoil.

* *Voyage Historique de L'Amerique Meridionale*, par Don George Juan et Don Antoine de Ulloa, liv. i, chap. viii, p. 52. A Amsterdam et à Leinziv. 1752. 4to.

"How admirable the wisdom of that Providence, which hath given to the male alligator an inclination to devour its own offspring; and to the gallinazo a taste for the eggs of the female! Indeed, neither the rivers, nor the neighbouring fields, would otherwise be sufficient to contain the multitudes that are hatched; for, notwithstanding the ravages of both these insatiable enemies, one can hardly imagine the numbers that remain."*

The Abbé Clavigero, in his *History of Mexico*, has clearly indicated the present species, as distinguished from the turkey buzzard:—

"The business of clearing the fields of Mexico, is reserved principally for the *zopilots*, known in South America by the name of *gallinazzi*; in other places, by that of *aure*; and in some places, though very improperly, by that of *ravens*. There are two very different species of these birds: the one, the *zopilot*, properly so called; the other called the *cozcaquauhtli*: they are both bigger than the raven. These two species resemble each other in their hooked bill and crooked claws, and by having upon their head, instead of feathers, a wrinkled membrane with some curling hairs. They fly so high, that, although they are pretty large, they are lost to the sight; and especially before a hail storm they will be seen wheeling, in vast numbers, under the loftiest clouds, till they entirely disappear. They feed upon carrion, which they discover, by the acuteness of their sight and smell, from the greatest height, and descend upon it with a majestic flight, in a great spiral course. They are both almost mute. The two species are distinguished, however, by their size, their colour, their numbers, and some other peculiarities. The *zopilots*, properly so called, have black feathers, with a brown head, bill, and feet; they go often in flocks, and roost together upon trees. This species is very numerous, and is to be found in all the different climates; while, on the contrary, the *cozcaquauhtli* is

* Liv. iv, chap. ix, p. 172.

far from numerous, and is peculiar to the warmer climates alone.* The latter bird is larger than the zopilote, has a red head and feet, with a beak of a deep red colour, except towards its extremity, which is white. Its feathers are brown, except upon the neck and parts about the breast, which are of a reddish black. The wings are of an ash colour upon the inside, and, upon the outside, are variegated with black and tawny.

"The cozcaquauhltli is called by the Mexicans, *king of the zopilotes*; † and they say, that, when these two species happen to meet together about the same carrion, the zopilote never begins to eat till the cozcaquauhltli has tasted it. The zopilote is a most useful bird to that country, for it not only clears the fields, but attends the crocodiles, and destroys the eggs which the females of those dreadful amphibious animals leave in the sand to be hatched by the heat of the sun. The destruction of such a bird ought to be prohibited under severe penalties." ‡

We are almost afraid of trespassing upon the patience of the reader by the length of our quotations; but as we are very anxious that the subject of this article should enjoy that right to which it is fairly entitled, of being ranked as an independent species, we are tempted to add one testimony more, which we find in the *History of Chili*, by the Abbé Molina.

"The *jota* (*vultur jota*) resembles much the *aura*, a species of vulture, of which there is, perhaps, but one variety. It is distinguished, however, by the beak, which is gray, with a black point. Notwithstanding the size of this bird, which is nearly that of the turkey, and its strong and crooked talons, it attacks no other, but feeds principally upon carcasses and reptiles. It is

* This is a mistake.

† This is the *vultur aura*. The bird which now goes by the name of *king of the zopilotes*, in New Spain, is the *vultur papa* of Linnaeus.

‡ Clavigero's *Mexico*, translated by Cullen, vol. i, p. 47. London.

extremely indolent, and will frequently remain, for a long time, almost motionless, with its wings extended, sunning itself upon the rocks, or the roofs of the houses. When in pain, which is the only time that it is known to make any noise, it utters a sharp cry like that of a rat; and usually disgorges what it has eaten. The flesh of this bird emits a fetid smell that is highly offensive. The manner in which it builds its nest, is perfectly correspondent to its natural indolence: it carelessly places between rocks, or even upon the ground, a few dry leaves or feathers, upon which it lays two eggs of a dirty white.*

The black vulture is twenty-six inches in length, and four feet four inches in extent; the bill is two inches and a half long, of a dark horn colour as far as near an inch; the remainder, the head, and a part of the neck, are covered with a black, wrinkled, caruncled skin, beset with short black hairs, and downy behind; nostril, an oblong slit; irides, reddish hazel; the throat is dashed with yellow ochre; the general colour of the plumage is of a dull black, except the primaries, which are whitish on the inside, and have four of their broadened edges below of a drab, or dark cream colour, extending two inches, which is seen only when the wing is unfolded; the shafts of the feathers white on both sides; the rest of the wing feathers dark on both sides; the wings, when folded, are about the length of the tail, the fifth feather being the longest; the secondaries are two inches shorter than the tail, which is slightly forked; the exterior feathers three quarters of an inch longer than the rest; the legs are limy, three inches and a half in length, and, with the feet, are thick and strong; the middle toe is four inches long, side toes, two inches, and considerably webbed, inner toe rather the shortest; claws strong, but not sharp, like those of the *falco* genus; middle claw three quarters of an inch long; the stomach is not lined with hair, as reported. When opened, this bird smells strongly of musk.

* Hist. Chili, Am. trans. i, p. 185.

Mr Abbot informs me, that the carrion crow builds its nest in the large trees of the low wet swamps, to which places they retire every evening to roost. "They frequent," says he, "that part of the town of Savannah, where the hog-butchers reside, and walk about the streets, in great numbers, like domestic fowls. It is diverting to see, when the entrails and offals of the hogs are thrown to them, with what greediness they scramble for the food, seizing upon it, and pulling one against another until the strongest prevails. The turkey buzzard is accused of killing young lambs and pigs, by picking out their eyes; but I believe that the carrion crow is not guilty of the like practices. The two species do not associate."

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FAMILY II.

RAPACES.

GENUS II. — *FALCO*, LINNÆUS.

SUBGENUS I. — *AQUILA*, BRISSON.

3. *FALCO FULFUS*, LINNÆUS — RING-TAIL EAGLE, WILSON.*

WILSON, PL. LV. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THIS noble bird, in strength, spirit, and activity, ranks among the first of its tribe. It is found, though sparingly dispersed, over the whole temperate and arctic regions, particularly the latter; breeding on high precipitous rocks, always preferring a mountainous country. In its general appearance, it has great resemblance to the golden eagle, from which, however, it differs in being rather less, as also in the colours and markings of the tail, and, as it is said, in being less noisy. When young, the colour of the body is considerably lighter, but deepens into a blackish brown as it advances in age.

The tail feathers of this bird are highly valued by the various tribes of American Indians, for ornamenting their calumets, or pipes of peace. Several of these pipes, which were brought from the remote regions of Louisiana, by Captain Lewis, are now deposited in Mr Peale's Museum, each of which has a number of the tail feathers of this bird attached to it. The northern, as well as southern Indians, seem to follow the like practice, as appears by the numerous calumets, formerly belonging to different tribes, to be seen in the same magnificent collection.

Mr Pennant informs us, that the independent Tartars

* Is the young of the golden eagle.

train this eagle for the chase of hares, foxes, wolves, antelopes, &c. and that they esteem the feathers of the tail the best for pluming their arrows. The ring-tail eagle is characterized by all as a generous spirited and docile bird; and various extraordinary incidents are related of it by different writers, not, however, sufficiently authenticated to deserve repetition. The truth is, the solitary habits of the eagle now before us, the vast inaccessible cliffs to which it usually retires, united with the scarcity of the species in those regions inhabited by man, all combine to render a particular knowledge of its manners very difficult to be obtained. The author has, once or twice, observed this bird sailing along the alpine declivities of the white mountains of New Hampshire, early in October, and again, over the highlands of Hudson's River, not far from West Point. Its flight was easy, in high circuitous sweeps; its broad white tail, tipped with brown, expanded like a fan. Near the settlements on Hudson's Bay, it is more common, and is said to prey on hares, and the various species of grouse which abound there. Buffon observes, that, though other eagles also prey upon hares, this species is a more fatal enemy to those timid animals, which are the constant object of their search, and the prey which they prefer. The Latins, after Pliny, termed the eagle *valeria quasi valens viribus*, because of its strength, which appears greater than that of the other eagles in proportion to its size.

The ring-tail eagle measures nearly three feet in length; the bill is of a brownish horn colour; the cere, sides of the mouth, and feet, yellow; iris of the eye, reddish hazel, the eye turned considerably forwards; eyebrow remarkably prominent, projecting over the eye, and giving a peculiar sternness to the aspect of the bird; the crown is flat; the plumage of the head, throat, and neck, long and pointed; that on the upper part of the head and neck, very pale ferruginous; fore part of the crown, black; all the pointed feathers are shafted with black; whole upper parts, dark blackish brown; wings, black; tail, rounded, long, of a white, or pale

cream colour, minutely sprinkled with specks of ash, and dusky, and ending in a broad band of deep dark brown, of nearly one-third its length; chin, cheeks, and throat, black; whole lower parts, a deep dark brown, except the vent and inside of the thighs, which are white, stained with brown; legs thickly covered to the feet with brownish white down, or feathers; claws, black, very large, sharp, and formidable, the hind one full two inches long.

The ring-tail eagle is found in Russia, Switzerland, Germany, France, Scotland, and the northern parts of America. As Marco Polo, in his description of the customs of the Tartars, seems to allude to this species, it may be said to inhabit the whole circuit of the arctic regions of the globe. The golden eagle, on the contrary is said to be found only in the more warm and temperate countries of the ancient continent. Later discoveries, however, have ascertained it to be also an inhabitant of the United States.

SUBGENUS II. — *HALIETOS*, SAVIGNY.

4. *FALCO LEUCOCEPHALUS*, LINN.—WHITE-HEADED, OR BALD EAGLE,* WILSON.

WILSON, PLATE XXXVI.† — EDINBURGH COLLEGE MUSEUM.

THIS distinguished bird, as he is the most beautiful of his tribe in this part of the world, and the adopted emblem of our country, is entitled to particular notice.

* The epithet *bald*, applied to this species, whose head is thickly covered with feathers, is equally improper and absurd with the titles goatsucker, kingfisher, &c. bestowed on others; and seems to have been occasioned by the white appearance of the head, when contrasted with the dark colour of the rest of the plumage. The appellation, however, being now almost universal, is retained in the following pages.

† This plate represents the adult bird.

The celebrated Cataract of Niagara is a noted place of resort for the bald eagle, as well on account of the fish procured there, as for the numerous carcasses of squirrels, deer, bears, and various other animals, that, in their attempts to cross the river above the Falls, have been dragged into the current, and precipitated down that tremendous gulf, where, among the rocks that bound the Rapids below, they furnish a rich repast for the vulture, the raven, and the bald eagle, the subject of the present account. He has been long known to naturalists, being common to both continents, and occasionally met with from a very high northern latitude, to the borders of the torrid zone, but chiefly in the vicinity of the sea, and along the shores and cliffs of our lakes and large rivers. Formed by nature for braving the severest cold; feeding equally on the produce of the sea, and of the land; possessing powers of flight capable of outstripping even the tempests themselves; unawed by any thing but man; and, from the ethereal heights to which he soars, looking abroad, at one glance, on an immeasurable expanse of forests, fields, lakes, and ocean, deep below him, he appears indifferent to the little localities of change of seasons; as, in a few minutes, he can pass from summer to winter, from the lower to the higher regions of the atmosphere, the abode of eternal cold, and from thence descend, at will, to the torrid, or the arctic regions of the earth. He is, therefore, found at all seasons, in the countries he inhabits; but prefers such places as have been mentioned above, from the great partiality he has for fish.

In procuring these, he displays, in a very singular manner, the genius and energy of his character, which is fierce, contemplative, daring, and tyrannical; attribute not exerted but on particular occasions, but, when put forth, overpowering all opposition. Elevated on the high dead limb of some gigantic tree that commands a wide view of the neighbouring shore and ocean, he seems calmly to contemplate the motions of the various feathered tribes that pursue their busy avocations below the snow-white gulls slowly winnowing the air: t

busy tringæ coursing along the sands; trains of ducks streaming over the surface; silent and watchful cranes, intent and wading; clamorous crows; and all the winged multitudes that subsist by the bounty of this vast liquid magazine of nature. High over all these hovers one, whose action instantly arrests his whole attention. By his wide curvature of wing, and sudden suspension in air, he knows him to be the fish hawk, settling over some devoted victim of the deep. His eye kindles at the sight, and, balancing himself, with half opened wings, on the branch, he watches the result. Down, rapid as an arrow from heaven, descends the distant object of his attention, the roar of its wings reaching the ear as it disappears in the deep, making the surges foam around! At this moment, the eager looks of the eagle are all ardour; and, levelling his neck for flight, he sees the fish hawk once more emerge, struggling with his prey, and mounting in the air with screams of exultation. These are the signal for our hero, who, launching into the air, instantly gives chase, and soon gains on the fish hawk; each exerts his utmost to mount above the other, displaying in these rencontres the most elegant and sublime aerial evolutions. The unencumbered eagle rapidly advances, and is just on the point of reaching his opponent, when, with a sudden scream, probably of despair and honest execration, the latter drops his fish: the eagle, poising himself for a moment, as if to take a more certain aim, descends like a whirlwind, snatches it in his grasp ere it reaches the water, and bears his ill-gotten booty silently away to the woods.

These predatory attacks and defensive manœuvres of the eagle and the fish hawk, are matters of daily observation along the whole of our sea board, from Georgia to New England, and frequently excite great interest in the spectators. Sympathy, however, on this as on most other occasions, generally sides with the honest and laborious sufferer, in opposition to the attacks of power, injustice, and rapacity, qualities for which our hero is so generally notorious, and which, in his

superior, *man*, are certainly detestable. As for the feelings of the poor fish, they seem altogether out of the question.

*When driven, as he sometimes is, by the combined courage and perseverance of the fish hawks from their neighbourhood, and forced to hunt for himself, he retires more inland, in search of young pigs, of which he destroys great numbers. In the lower parts of Virginia and North Carolina, where the inhabitants raise vast herds of those animals, complaints of this kind are very general against him. He also destroys young lambs in the early part of spring; and will sometimes attack old sickly sheep, aiming furiously at their eyes.

In corroboration of the remarks I have myself made on the manners of the bald eagle, many accounts have reached me from various persons of respectability, living on or near our sea coast: The substance of all these I shall endeavour to incorporate with the present account.

Mr John L. Gardiner, who resides on an island of three thousand acres, about three miles from the eastern point of Long Island, from which it is separated by Gardiner's Bay, and who has consequently many opportunities of observing the habits of these birds, has favoured me with a number of interesting particulars on this subject; for which I beg leave thus publicly to return my grateful acknowledgment.

"The bald eagles," says this gentleman, "remain on this island during the whole winter. They can be most easily discovered on evenings by their loud snoring while asleep on high oak trees; and, when awake, their hearing seems to be nearly as good as their sight. I think I mentioned to you, that I had myself seen one flying with a lamb ten days old, and which it dropped on the ground from about ten or twelve feet high. The struggling of the lamb, more than its weight, prevented its carrying it away. My running, hallooing, and being very near, might prevent its completing its design. It had broke the back in the act of seizing it; and I was under the necessity of killing it outright to prevent its misery. The lamb's dam seemed asto-

nished to see its innocent offspring borne off into the air by a bird.

"I was lately told," continues Mr Gardiner, "by a man of truth, that he saw an eagle rob a hawk of its fish, and the hawk seemed so enraged as to fly down at the eagle, while the eagle very deliberately, in the air, threw himself partly over on his back, and, while he grasped with one foot the fish, extended the other to threaten or seize the hawk. I have known several hawks unite to attack the eagle; but never knew a single one to do it. The eagle seems to regard the hawks as the hawks do the king-birds, only as teasing, troublesome fellows."

From the same intelligent and obliging friend, I lately received a well preserved skin of the bald eagle, which, from its appearance, and the note that accompanied it, seems to have belonged to a very formidable individual. "It was shot," says Mr Gardiner, "last winter, on this island, and weighed thirteen pounds, measured three feet in length, and seven from tip to tip of the expanded wings; was extremely fierce looking; though wounded, would turn his back to no one; fastened his claws into the head of a dog, and was with difficulty disengaged. I have rode on horseback within five or six rods of one, who, by his bold demeanour, raising his feathers, &c. seemed willing to dispute the ground with its owner. The crop of the present was full of mutton, from my part blood Merinos; and his intestines contained feathers, which he probably devoured with a duck, or winter gull, as I observed an entire foot and leg of some water fowl. I had two killed previous to this, which weighed ten pounds avoirdupois each."

The intrepidity of character, mentioned above, may be farther illustrated by the following fact, which occurred a few years ago, near Great Egg Harbour, New Jersey. A woman, who happened to be weeding in the garden, had set her child down near, to amuse itself while she was at work; when a sudden and extraordinary rushing sound, and a scream from her child, alarmed her, and, starting up, she beheld the infant thrown down, and dragged

some few feet, and a large bald eagle bearing off a fragment of its frock, which being the only part seized, and giving way, providentially saved the life of the infant.

*The appetite of the bald eagle, though habituated to long fasting, is of the most voracious and often the most indelicate kind. Fish, when he can obtain them, are preferred to all other fare. Young lambs and pigs are dainty morsels, and made free with on all favourable occasions. Ducks, geese, gulls, and other sea fowl, are also seized with avidity. The most putrid carrion, when nothing better can be had, is acceptable; and the collected groups of gormandizing vultures, on the approach of this dignified personage, instantly disperse, and make way for their master, waiting his departure in sullen silence, and at a respectful distance, on the adjacent trees.

In one of those partial migrations of tree squirrels that sometimes take place in our western forests, many thousands of them were drowned in attempting to cross the Ohio; and at a certain place, not far from Wheeling, a prodigious number of their dead bodies were floated to the shore by an eddy. Here the vultures assembled in great force, and had regaled themselves for some time, when a bald eagle made his appearance, and took sole possession of the premises, keeping the whole vultures at their proper distance for several days. He has also been seen navigating the same river on a floating carrion, though scarcely raised above the surface of the water, and tugging at the carcass, regardless of snags, sawyers, planters, or shallows. He sometimes carries his tyranny to great extremes against the vultures. In hard times, when food happens to be scarce, should he accidentally meet with one of these who has its craw crammed with carrion, he attacks it fiercely in the air; the cowardly vulture instantly disgorges, and the delicious contents are snatched up by the eagle before they reach the ground.

The nest of this species is generally fixed on a very large and lofty tree, often in a swamp or morass, and difficult to be ascended. On some noted tree of this

description, often a pine or cypress, the bald eagle builds, year after year, for a long series of years. When both male and female have been shot from the nest, another pair has soon after taken possession. The nest is large, being added to and repaired every season, until it becomes a black prominent mass, observable at a considerable distance. It is formed of large sticks, sods, earthy rubbish, hay, moss, &c. Many have stated to me that the female lays first a single egg, and that, after having sat on it for some time, she lays another; when the first is hatched, the warmth of that, it is pretended, hatches the other. Whether this be correct or not, I cannot determine; but a very respectable gentleman of Virginia assured me, that he saw a large tree cut down, containing the nest of a bald eagle, in which were two young, one of which appeared nearly three times as large as the other. As a proof of their attachment to their young, a person near Norfolk informed me, that, in clearing a piece of wood on his place, they met with a large dead pine tree, on which was a bald eagle's nest and young. The tree being on fire more than half way up, and the flames rapidly ascending, the parent eagle darted around and among the flames, until her plumage was so much injured that it was with difficulty she could make her escape, and even then, she several times attempted to return to relieve her offspring.

No bird provides more abundantly for its young than the bald eagle. Fish are daily carried thither in numbers, so that they sometimes lie scattered round the tree, and the putrid smell of the nest may be distinguished at the distance of several hundred yards. The young are at first covered with a thick whitish or cream coloured cottony down; they gradually become of a gray colour as their plumage develops itself, continue of the brown gray until the third year, when the white begins to make its appearance on the head, neck, tail coverts, and tail; these by the end of the fourth year are completely white, or very slightly tinged with cream; the eye also is at first hazel, but gradually

brightens into a brilliant straw colour, with the white plumage of the head. Such at least was the gradual progress of this change, witnessed by myself, on a very fine specimen brought up by a gentleman, a friend of mine, who, for a considerable time, believed it to be what is usually called the gray eagle, and was much surprised at the gradual metamorphosis. This will account for the circumstance, so frequently observed, of the gray and white-headed eagle being seen together, both being, in fact, the same species, in different stages of colour, according to their difference of age.

The flight of the bald eagle, when taken into consideration with the ardour and energy of his character, is noble and interesting. Sometimes the human eye can just discern him, like a minute speck, moving in slow curvatures along the face of the heavens, as if reconnoitring the earth at that immense distance. Sometimes he glides along in a direct horizontal line, at a vast height, with expanded and unmoving wings, till he gradually disappears in the distant blue ether. Seen gliding in easy circles over the high shores and mountainous cliffs that tower above the Hudson and Susquehanna, he attracts the eye of the intelligent voyager, and adds great interest to the scenery. At the great Cataract of Niagara, already mentioned, there rises from the gulf into which the Falls of the Horse-Shoe descends, a stupendous column of smoke, or spray, reaching to the heavens, and moving off in large black clouds, according to the direction of the wind, forming a very striking and majestic appearance. The eagles are here seen sailing about, sometimes losing themselves in this thick column, and again reappearing in another place, with such ease and elegance of motion, as renders the whole truly sublime.

High o'er the watery uproar, silent seen,
Sailing sedate in majesty serene,
Now midst the pillar'd spray sublimely lost,
And now, emerging, down the Rapids tost,
Glides the bald eagle, gazing, calm and slow,
O'er all the horrors of the scene below ;
Intent alone to sate himself with blood,
From the torn victims of the raging flood.

The white-headed eagle is three feet long, and seven feet in extent; the bill is of a rich yellow; cere the same, slightly tinged with green; mouth, flesh-coloured, tip of the tongue, bluish black; the head, chief part of the neck, vent, tail coverts, and tail, are white in the perfect, or old birds of both sexes,—in those under three years of age these parts are of a gray brown; the rest of the plumage is deep dark brown, each feather tipped with pale brown, lightest on the shoulder of the wing, and darkest towards its extremities. The conformation of the wing is admirably adapted for the support of so large a bird; it measures two feet in breadth on the greater quills, and sixteen inches on the lesser; the longest primaries are twenty inches in length, and upwards of one inch in circumference where they enter the skin; the broadest secondaries are three inches in breadth across the vane; the scapulars are very large and broad, spreading from the back to the wing, to prevent the air from passing through; another range of broad flat feathers, from three to ten inches in length, also extend from the lower part of the breast to the wing below, for the same purpose; between these lies a deep triangular cavity; the thighs are remarkably thick, strong, and muscular, covered with long feathers pointing backwards, usually called the femoral feathers; the legs, which are covered half way below the knee, before, with dark brown downy feathers, are of a rich yellow, the colour of ripe Indian corn; feet the same; claws, blue black, very large and strong, particularly the inner one, which is considerably the largest; soles, very rough and warty; the eye is sunk under a bony, or cartilaginous projection, of a pale yellow colour, and is turned considerably forwards, not standing parallel with the cheeks, the iris is of a bright straw colour, pupil black.

The male is generally two or three inches shorter than the female; the white on the head, neck, and tail being more tinged with yellowish, and its whole appearance less formidable; the brown plumage is also lighter, and the bird itself less daring than the female,—a circumstance common to almost all birds of prey.

The bird from which the foregoing description was taken, was shot near Great Egg Harbour, in the month of January. It was in excellent order, and weighed about eleven pounds. Dr Samuel B. Smith, of this city, obliged me with a minute and careful dissection of it; from whose copious and very interesting notes on the subject I shall extract such remarks as are suited to the general reader.

“ The eagle you sent me for dissection was a beautiful female. It had two expansions of the gullet. The first principally composed of longitudinal bundles of fibre, in which (as the bird is ravenous and without teeth) large portions of unmasticated meats are suffered to dissolve before they pass to the lower or proper stomach, which is membranous. I did not receive the bird time enough to ascertain whether any chilification was effected by the juices from the vessels of this enlargement of the œsophagus. I think it probable, that it also has a regurgitating, or vomiting power, as the bird constantly swallows large quantities of indigestible substances, such as quills, hairs, &c. In this sac of the eagle, I found the quill feathers of the small white gull; and in the true stomach, the tail and some of the breast feathers of the same bird, and the dorsal vertebræ of a large fish. This excited some surprise, until you made me acquainted with the fact of its watching the fish hawks, and robbing them of their prey. Thus we see, throughout the whole empire of animal life, power is almost always in a state of hostility to justice; and of the Deity only can it truly be said, that *justice* is commensurate with *power*!

“ The eagle has the several auxiliaries to digestion and assimilation in common with man. The liver was unusually large in your specimen. It secretes bile, which stimulates the intestines, prepares the chyle for blood, and by this very secretion of bile, (as it is a deeply respiring animal,) separates or removes some obnoxious principles from the blood. (See Dr Rush’s admirable lecture on this important viscus in the human subject.) The intestines were also large, long, convolute,

and supplied with numerous lacteal vessels, which differ little from those of men, except in colour, which was transparent. The kidneys were large, and seated on each side the vertebræ, near the anus. They are also destined to secrete some offensive principles from the blood.

“ The eggs were small and numerous; and, after a careful examination, I concluded that no sensible increase takes place in them till the *particular* season. This may account for the unusual excitement which prevails in these birds in the sexual intercourse. Why there are so many eggs, is a mystery. It is, perhaps, consistent with natural law, that every thing should be abundant; but, from this bird, it is said, no more than two young are hatched in a season, consequently, no more eggs are wanted than a sufficiency to produce that effect. Are the eggs numbered originally, and is there no increase of number, but a gradual loss, till all are deposited? If so, the number may correspond to the long life and vigorous health of this noble bird. Why there is but two young in a season, is easily explained. Nature has been studiously parsimonious of her physical strength, from whence the tribes of animals incapable to resist, derive security and confidence.”

The eagle is said to live to a great age—sixty, eighty, and, as some assert, one hundred years. This circumstance is remarkable, when we consider the seeming intemperate habits of the bird. Sometimes fasting, through necessity, for several days, and at other times gorging itself with animal food till its craw swells out the plumage of that part, forming a large protuberance on the breast. This, however, is its natural food, and for these habits its whole organization is particularly adapted. It has not, like men, invented rich wines, ardent spirits, and a thousand artificial poisons, in the form of soups, sauces, and sweetmeats. Its food is simple, it indulges freely, uses great exercise, breathes the purest air, is healthy, vigorous, and long lived. The lords of the creation themselves might derive some useful hints from these facts, were they not already,

in general, too wise, or too proud, to learn from their *inferiors*, the fowls of the air and beasts of the field.

5. *FALCO OSSIFRAGUS*, WILSON.* — SEA EAGLE.

WILSON, PLATE LV. FIG. II.—EDINBURGH COLLEGE MUSEUM.

THIS eagle inhabits the same countries, frequents the same situations, and lives on the same kind of food, as the bald eagle, with whom it is often seen in company. It resembles this last so much in figure, size, form of the bill, legs, and claws, and is so often seen associating with it, both along the Atlantic coast and in the vicinity of our lakes and large rivers, that I have strong suspicions, notwithstanding ancient and very respectable authorities to the contrary, of its being the same species, only in a different stage of colour.

That several years elapse before the young of the bald eagle receive the white head, neck, and tail; and that, during the intermediate period, their plumage strongly resembles that of the sea eagle, I am satisfied from my own observation on three several birds, kept by persons of Philadelphia. One of these, belonging to the late Mr Enslen, collector of natural subjects for the Emperor of Austria, was confidently believed by him to be the black, or sea eagle, until the fourth year, when ~~the~~ plumage on the head, tail, and tail-coverts, began gradually to become white; the bill also exchanged its dusky hue for that of yellow; and, before its death, this bird, which I frequently examined, assumed the perfect dress of the full-plumaged bald eagle. Another

* This is the young of the *fulco leucocephalus*, or white-headed eagle, not the young of the *fulco albicilla*, or cinereous eagle, which is the sea eagle of Britain.—*Editor*.

circumstance, corroborating these suspicions, is variety that occurs in the colours of the sea eagle. Scarcely two of these are found to be alike, the plumage being more or less diluted with white. In some, the chin, breast, and tail-coverts, are of a brown; in others nearly white; and in all, evidently unfixed and varying to a pure white. Their place and manner of building, on high trees, in the neighbourhood of lakes, large rivers, or the ocean, exactly similar to the bald eagle, also strengthens the belief. At the celebrated Cataract of Niagara, great numbers of these birds, called there gray eagles, are continually sailing high and majestically over the watery tun in company with the bald eagles, eagerly watching the mangled carcasses of those animals that have hurried over the precipice, and cast up on the rocks below, by the violence of the Rapids. These are some of the circumstances on which my suspicions of the identity of those two birds are founded. In some future part of the work, I hope to be able to speak with more certainty on this subject.

Were we disposed, after the manner of some writers, to substitute, for plain matters of fact, all the narrative, conjectures, and fanciful theories of travellers, voyagers, compilers, &c. relative to the history of the eagle, the volumes of these writers, from Aristotle down to Buffon, would furnish abundant materials for this purpose. But the author of the present work feels no ambition to excite surprise or astonishment at the expense of truth, or to attempt to elevate and embellish his subject beyond the realities of nature. On this account, he cannot assent to the assertion, however eloquently made, in the celebrated parallel drawn by the French naturalist, between the lion and the eagle, viz. that the eagle, like the lion, "disdains the possession of that property which is the fruit of his own industry, and rejects, with contempt, the prey which is not procured by his own exertion, since the very reverse of this is the case, in the conduct of the bald and the sea eagle, who, during the sum-

months, are the constant robbers and plunderers of the osprey, or fish-hawk, by whose industry alone both are usually fed. Nor that, "*though famished for want of prey, he disdains to feed on carrion,*" since we have ourselves seen the bald eagle, while seated on the dead carcass of a horse, keep a whole flock of vultures at a respectful distance, until he had fully sated his own appetite. The Count has also taken great pains to expose the ridiculous opinion of Pliny, who conceived that the ospreys formed no separate race, and that they proceeded from the intermixture of different species of eagles, the young of which were not ospreys, only sea eagles; "*which sea eagles,*" says he, "*breed small vultures, which engender great vultures, that have not the power of propagation.*"* But, while labouring to confute these absurdities, the Count himself, in his belief of an occasional intercourse between the osprey and the sea eagle, contradicts all actual observation, and one of the most common and fixed laws of nature; for it may be safely asserted, that there is no habit more universal among the feathered race, in their natural state, than that chastity of attachment, which confines the amours of individuals to those of their own species only. That perversion of nature, produced by domestication, is nothing to the purpose. In no instance have I ever observed the slightest appearance of a contrary conduct. Even in those birds which never build a nest for themselves, nor hatch their young, nor even pair, but live in a state of general concubinage,—such as the cuckoo of the old, and the cow bunting of the new continent,—there is no instance of a deviation from this striking habit. I cannot, therefore, avoid considering the opinion above alluded to, that "the male osprey, by coupling with the female sea eagle, produces sea eagles; and that the female osprey, by pairing with the male sea eagle, gives birth to ospreys,"† or fish-hawks, as altogether unsupported by facts, and contradicted by the

* *Hist. Nat.* lib. x, c. 3.

† Buffon, vol. I. p. 80, *Trans.*

constant and universal habits of the whole feathered race, in their state of nature.

The sea eagle is said, by Salerne, to build, on the loftiest oaks, a very broad nest, into which it drops two large eggs, that are quite round, exceedingly heavy, and of a dirty white colour. Of the precise time of building, we have no account; but something may be deduced from the following circumstance:—In the month of May, while on a shooting excursion along the sea coast, not far from Great Egg Harbour, accompaied by my friend Mr Ord, we were conducted about a mile into the woods to see an eagle's nest. On approaching within a short distance of the place, the bird was perceived slowly retreating from the nest, which, we found, occupied the centre of the top of a very large yellow pine. The woods were cut down, and cleared off, for several rods around the spot, which, from this circumstance, and the stately, erect trunk, and large crooked, wriggling branches of the tree, surmounted by a black mass of sticks and brush, had a very singular and picturesque effect. Our conductor had brought an axe with him, to cut down the tree; but my companion, anxious to save the eggs, or young, insisted on ascending to the nest, which he fearlessly performed, while we stationed ourselves below, ready to defend him, in case of an attack from the old eagles. No opposition, however, was offered; and, on reaching the nest, it was found, to our disappointment, empty. It was built of large sticks, some of them several feet in length; within which lay sods of earth, sedge, grass, dry reeds, &c. piled to the height of five or six feet, by more than four in breadth. It was well lined with fresh pine tops, and had little or no concavity. Under this lining lay the recent exuvie of the young of the present year, such as scales of the quill feathers, down, &c. Our guide had passed this place late in February, at which time both male and female were making a great noise in the nest; and, from what we afterwards learned, highly probable it contained young, even at this early time of the season.

A few miles from this, is another eagle's nest, built also on a pine tree, which, from the information received from the proprietor of the woods, had been long the residence of this family of eagles. The tree on which the nest was originally built, had been, for time immemorial, or at least ever since he remembered, inhabited by these eagles. Some of his sons cut down this tree to procure the young, which were two in number; and the eagles, soon after, commenced building another nest, on the very next adjoining tree, thus exhibiting a very particular attachment to the spot. The eagles, he says, make it a kind of *home and lodging place*, in all seasons. This man asserts, that the gray, or sea eagles, are the young of the bald eagle, and that they are several years old before they begin to breed. It does not drive its young from the nest like the osprey, or fish-hawk, but continues to feed them long after they leave it.

The specimen from which this description was taken measured three feet in length and upwards of seven feet in extent. The bill was formed exactly like that of the bald eagle, but of a dusky brown colour; cere and legs, bright yellow; the latter, as in the bald eagle, feathered a little below the knee; irides, a bright straw colour; head above, neck and back, streaked with light brown, deep brown, and white, the plumage being white, tipped and centered with brown; scapulars, brown; lesser wing-coverts, very pale, intermixed with white; primaries, black, their shafts brownish white; rump, pale brownish white; tail, rounded, somewhat longer than the wings, when shut, brown on the exterior vanes, the inner ones white, sprinkled with dirty brown; throat, breast, and belly, white, dashed and streaked with different tints of brown and pale yellow; vent, brown, tipped with white; femorals, dark brown, tipped with lighter; auriculars, brown, forming a bar from below the eye backwards; plumage of the neck, long, narrow, and pointed, as is usual with eagles, and of a brownish colour, tipped with white.

The sea eagle is said, by various authors, to hunt at night, as well as during the day, and that, besides fish,

it feeds on chickens, birds, hares, and other animals. It is also said to catch fish during the night; and that the noise of its plunging into the water is heard at a great distance. But, in the descriptions of these writers, this bird has been so frequently confounded with the osprey, as to leave little doubt that the habits and manners of the one have been often attributed to both; and others added that are common to neither.

SUBGENUS III.—*PANDION*, SAVIGNY.

6. *FALCO HALIÆTUS*, LINN.—FISH-HAWK, OR OSPREY, WILSON.*

WILSON, PL. XXXVII. FIG. 1.—EDINBURGH COLLEGE MUSEUM.

THIS formidable, vigorous-winged, and well known bird, subsists altogether on the finny tribes that swarm in our bays, creeks, and rivers; procuring his prey by his own active skill and industry; and seeming no farther dependent on the land than as a mere resting place, or, in the usual season, a spot of deposit for his nest, eggs, and young.

The fish-hawk is migratory, arriving on the coasts of New York and New Jersey about the twenty-first of March, and retiring to the south about the twenty-second of September. Heavy equinoctial storms may vary these periods of arrival and departure a few days; but long observation has ascertained, that they are kept with remarkable regularity. On the arrival of these birds in the northern parts of the United States, in March, they sometimes find the bays and ponds frozen, and experience a difficulty in procuring fish for many days. Yet there is no instance on record of their attacking birds, or inferior land animals, with intent

* It is also a European species.

to feed on them ; though their great strength of flight, as well as of feet and claws, would seem to render this no difficult matter. But they no sooner arrive, than they wage war on the bald eagles, as against a horde of robbers and banditti ; sometimes succeeding, by force of numbers and perseverance, in driving them from their haunts, but seldom or never attacking them in single combat.

The first appearance of the fish-hawk in spring, is welcomed by the fishermen, as the happy signal of the approach of those vast shoals of herring, shad, &c. that regularly arrive on our coasts, and enter our rivers in such prodigious multitudes. Two of a trade, it is said, seldom agree ; the adage, however, will not hold good in the present case, for such is the respect paid the fish-hawk, not only by this class of men, but, generally, by the whole neighbourhood where it resides, that a person who should attempt to shoot one of them, would stand a fair chance of being insulted. This prepossession in favour of the fish-hawk is honourable to their feelings. They associate, with its first appearance, ideas of plenty, and all the gaiety of business ; they see it active and industrious like themselves ; inoffensive to the productions of their farms ; building with confidence, and without the least disposition to concealment, in the middle of their fields, and along their fences ; and returning, year after year, regularly to its former abode.

The nest of the fish-hawk is usually built on the top of a dead, or decaying tree, sometimes not more than fifteen, often upwards of fifty feet, from the ground. It has been remarked by the people of the sea coasts, that the most thriving tree will die in a few years after being taken possession of by the fish-hawk. This is attributed to the fish-oil, and to the excrements of the bird ; but is more probably occasioned by the large heap of wet salt materials of which the nest is usually composed. In my late excursions to the sea shore, I ascended to several of these nests that had been built

in from year to year, and found them constructed as follows :—Externally, large sticks, from half an inch to an inch and a half in diameter, and two or three feet in length, piled to the height of four or five feet, and from two to three feet in breadth ; these were intermixed with corn stalks, sea-weed, pieces of wet turf, in large quantities, mullein stalks, and lined with dry sea-grass ; the whole forming a mass very observable at half a mile's distance, and large enough to fill a cart, and form no inconsiderable load for a horse. These materials are so well put together, as often to adhere, in large fragments, after being blown down by the wind. My learned and obliging correspondent of New York, Dr Samuel L. Mitchill, observes, that “ A sort of superstition is entertained in regard to the fish-hawk. It has been considered a fortunate incident to have a nest, and a pair of these birds, on one's farm. They have, therefore, been generally respected ; and neither the axe nor the gun has been lifted against them. Their nest continues from year to year. The same couple, or another, as the case may be, occupies it, season after season. Repairs are duly made, or, when demolished by storms, it is industriously rebuilt. There was one of these nests, formerly, upon the leafless summit of a venerable chestnut tree on our farm, directly in front of the house, at the distance of less than half a mile. The withered trunk and boughs, surmounted by the coarse wrought and capacious nest, was a more picturesque object than an obelisk : and the flight of the hawks, as they went forth to hunt, returned with their game, exercised themselves in wheeling round and round, and circling about it, were amusing to the beholder, almost from morning to night. The family of these hawks, old and young, was killed by the Hessian *Jagers*. A succeeding pair took possession of the nest ; but, in the course of time, the prongs of the trunk so rotted away, that the nest could no longer be supported. The hawks have been obliged to seek new quarters. We have lost this part of our prospect ; and

our trees have not afforded a convenient site for one of their habitations since."

About the first of May, the female fish-hawk begins to lay her eggs, which are commonly three in number, sometimes only two, and rarely four. They are somewhat larger than those of the common hen, and nearly of the same shape. The ground colour varies, in different eggs, from a reddish cream, to nearly a white, splashed and daubed all over with dark Spanish brown, as if done by art.* During the time the female is sitting, the male frequently supplies her with fish; though she occasionally takes a short circuit to sea herself, but quickly returns again. The attention of the male, on such occasions, is regulated by the circumstances of the case. A pair of these birds, on the south side of Great Egg Harbour river, and near its mouth, were noted for several years. The female, having but one leg, was regularly furnished, while sitting, with fish in such abundance, that she seldom left the nest, and never to seek for food. This kindness was continued both before and after incubation. Some animals, who claim the name and rationality of man, might blush at the recital of this fact.

On the appearance of the young, which is usually about the last of June, the zeal and watchfulness of the parents are extreme. They stand guard, and go off to fish, alternately; one parent being always within a

* Of the palatableness of these eggs I cannot speak from personal experience; but the following incident will shew that the experiment has actually been made:—A country fellow, near Cape May, on his way to a neighbouring tavern, passing a tree, on which was a fish-hawk's nest, immediately mounted, and robbed it of the only egg it contained, which he carried with him to the tavern, and desired the landlord to make it into egg-nogg. The tavern-keeper, after a few wry faces, complied with his request, and the fellow swallowed the cordial; whether from its effects on the olfactory nerves, (for he said it smelt abominably,) on the imagination, or on the stomach alone, is uncertain, but it operated as a most outrageous emetic, and cured the man, for that time at least, of his thirst for egg-nogg. What is rather extraordinary, the landlord (Mr Beasley) assured me, that, to all appearance, the egg was perfectly fresh.

short distance of the nest. On the near approach of any person, the hawk utters a plaintive whistling note, which becomes shriller as she takes to wing, and sails around, sometimes making a rapid descent, as if aiming directly for you ; but checking her course, and sweeping past, at a short distance over head, her wings making a loud whizzing in the air. My worthy friend Mr Gardiner informs me, that they have even been known to fix their claws in a negro's head, who was attempting to climb to their nest ; and I had lately a proof of their daring spirit in this way, through the kindness of a friend, resident, for a few weeks, at Great Egg Harbour. I had requested of him the favour to transmit me, if possible, a live fish-hawk, for the purpose of making a drawing of it, which commission he very faithfully executed ; and I think I cannot better illustrate this part of the bird's character, than by quoting his letter at large.

" Beasley's, Great Egg Harbour, 30th June, 1811.

" SIR, — Mr Beasley and I went to reconnoitre a fish-hawk's nest on Thursday afternoon. When I was at the nest, I was struck with so great violence on the crown of the hat, that I thought a hole was made in it. I had ascended fearlessly, and never dreamt of being attacked. I came down quickly. There were in the nest three young ones, about the size of pullets, which, though full feathered, were unable to fly. On Friday morning, I went again to the nest to get a young one, which I thought I could nurse to a considerable growth, sufficient to answer your purpose, if I should fail to procure an old one, which was represented to me as almost impossible, on account of his shyness, and the danger from his dreadful claws. On taking a young one, I intended to lay a couple of snares in the nest, for which purpose I had a strong cord in my pocket. The old birds were on the tree when Captain H. and I approached it. As a defence, profiting by the experience of yesterday, I took a walking stick with me. When I was about half up the tree, the bird I send you struck

at me repeatedly with violence ; he flew round, in a small circle, darting at me at every circuit, and I striking at him. Observing that he always described a circle in the air, before he came at me, I kept a *hawk's eye* upon him, and the moment he passed me, I availed myself of the opportunity to ascend. When immediately under the nest, I hesitated at the formidable opposition I met, as his rage appeared to increase with my presumption in invading his premises. But I mounted to the nest. At that moment he darted directly at me with all his force, whizzing through the air, his choler apparently redoubled. Fortunately for me, I struck him on the extreme joint of the right wing with my stick, which brought him to the ground. During this contest, the female was flying round and round at a respectful distance. Captain H. held him till I tied my handkerchief about his legs ; the captain felt the effect of his claws. I brought away a young one to keep the old one in a good humour. I put them in a very large coop ; the young one ate some fish, when broken and put into its throat ; but the old one would not eat for two days. He continued sullen and obstinate, hardly changing his position. He walks about now, and is approached without danger. He takes very little notice of the young one. A Joseph Smith, working in the field where this nest is, had the curiosity to go up to look at the eggs : the bird clawed his face in a shocking manner ; his eye had a narrow escape. I am told that it has never been considered dangerous to approach a hawk's nest. If this be so, this bird's character is peculiar ; his affection for his young, and his valiant opposition to an invasion of his nest, entitle him to conspicuous notice. He is the *prince* of fish-hawks ; his character and his portrait seem worthy of being handed to the historic muse. A hawk more worthy of the honour which awaits him could not have been found. I hope no accident will happen to him, and that he may fully answer your purpose. — Yours,

“ THOMAS SMITH.”

“ This morning the female was flying to and fro, making a mournful noise.”

The young of the fish-hawk are remarkable^e for remaining long in the nest before they attempt to fly. Mr Smith's letter is dated June 30th, at which time, he observes, they were as large as pullets, and full feathered. Seventeen days after, I myself ascended to this same hawk's nest, where I found the two remaining young ones seemingly full grown. They made no attempts to fly, though they both placed themselves in a stern posture of defence as I examined them at my leisure. The female had procured a *second* helpmate; but he did not seem to inherit the spirit of his predecessor, for, like a true step-father, he left the nest at my approach, and sailed about at a safe distance with his mate, who shewed great anxiety and distress during the whole of my visit. It is universally asserted, by the people of the neighbourhood where these birds breed, that the young remain so long, before they fly, that the parents are obliged at last to compel them to shift for themselves, beating them with their wings, and driving them from the nest. But that they continue to assist them even after this, I know to be a fact, from my own observation, as I have seen the young bird meet its parent in the air, and receive from him the fish he carried in his claws.

The flight of the fish-hawk, his manœuvres while in search of fish, and his manner of seizing his prey, are deserving of particular notice. In leaving the nest, he usually flies direct till he comes to the sea, then sails around, in easy curving lines, turning sometimes in the air as on a pivot, apparently without the least exertion, rarely moving the wings, his legs extended in a straight line behind, and his remarkable length, and curvature, or bend of wing, distinguishing him from all other hawks. The height at which he thus elegantly glides is various, from one hundred to one hundred and fifty, and two hundred feet, sometimes much higher, all the while calmly reconnoitring the face of the deep

below. Suddenly he is seen to check his course, as if struck by a particular object, which he seems to survey for a few moments with such steadiness, that he appears fixed in air, flapping his wings. This object, however, he abandons, or rather the fish he had in his eye has disappeared, and he is again seen sailing around as before. Now his attention is again arrested, and he descends with great rapidity; but ere he reaches the surface, shoots off on another course, as if ashamed that a second victim had escaped him. He now sails at a short height above the surface, and by a zig-zag descent, and without seeming to dip his feet in the water, seizes a fish, which, after carrying a short distance, he probably drops, or yields up to the bald eagle, and again ascends, by easy spiral circles, to the higher regions of the air, where he glides about in all the ease and majesty of his species. At once, from this sublime aerial height, he descends like a perpendicular torrent, plunging into the sea with a loud rushing sound, and with the certainty of a rifle. In a few moments he emerges, bearing in his claws his struggling prey, which he always carries head foremost, and, having risen a few feet above the surface, shakes himself as a water spaniel would do, and directs his heavy and laborious course directly for the land. If the wind blow hard, and his nest lie in the quarter from whence it comes, it is amusing to observe with what judgment and exertion he beats to windward, not in a direct line, that is, *in the wind's eye*, but making several successive tacks to gain his purpose. This will appear the more striking, when we consider the size of the fish which he sometimes bears along. A shad was taken from a fish-hawk near Great Egg Harbour, on which he had begun to regale himself, and had already ate a considerable portion of it; the remainder weighed six pounds. Another fish-hawk was passing Mr Beasley's, at the same place, with a large flounder in his grasp, which struggled and shook him so, that he dropt it on the shore. The flounder was picked up, and served the whole family for dinner. It is singular that the hawk never descends to pick up a fish which he

happens to drop, either on the land or on the water. There is a kind of abstemious dignity in this habit of the hawk, superior to the gluttonous voracity displayed by most other birds of prey, particularly by the bald eagle, whose piratical robberies committed on the present species, have been already fully detailed in treating of his history. The hawk, however, in his fishing pursuits, sometimes mistakes his mark, or overrates his strength, by striking fish too large and powerful for him to manage, by whom he is suddenly dragged under; and, though he sometimes succeeds in extricating himself, after being taken three or four times down, yet oftener both parties perish. The bodies of sturgeon, and of several other large fish, with a fish-hawk fast grappled in them, have, at different times, been found dead on the shore, cast up by the waves.

The fish-hawk is doubtless the most numerous of all its genus within the United States. It penetrates far into the interior of the country up our large rivers, and their head waters. It may be said to line the sea-coast from Georgia to Canada. In some parts I have counted, at one view, more than twenty of their nests within half a mile. Mr Gardiner informs me, that, on the small island on which he resides, there are at least "three hundred nests of fish-hawks that have young, which, on an average, consume probably not less than six hundred fish daily." Before they depart in the autumn, they regularly repair their nests, carrying up sticks, sods, &c. fortifying them against the violence of the winter storms, which, from this circumstance, they would seem to foresee and expect. But, notwithstanding all their precautions, they frequently, on their return in spring, find them lying in ruins around the roots of the tree; and sometimes the tree itself has shared the same fate. When a number of hawks, to the amount of twenty or upwards, collect together on one tree, making a loud squeeling noise, there is generally a nest built soon after on the same tree. Probably this congressional assembly were settling the right of the new pair to the premises; or it might be a kind of wedding,

or joyous festive meeting on the occasion. They are naturally of a mild and peaceable disposition, living together in great peace and harmony; for though with them, as in the best regulated communities, instances of attack and robbery occur among themselves, yet these instances are extremely rare. Mr Gardiner observes, that they are sometimes seen high in the air, sailing and cutting strange gambols, with loud vociferations, darting down several hundred feet perpendicular, frequently with part of a fish in one claw, which they seem proud of, and to claim *high hook*, as the fishermen call *him* who takes the greatest number. On these occasions, they serve as a barometer to foretel the changes of the atmosphere; for, when the fish-hawks are seen thus sailing high in air, in circles, it is universally believed to prognosticate a change of weather, often a thunder storm, in a few hours. On the faith of the certainty of these signs, the experienced coaster wisely prepares for the expected storm, and is rarely mistaken.

There is one singular trait in the character of this bird, which is mentioned in treating of the purple grackle, and which I have had many opportunities of witnessing. The grakles, or crow blackbirds, are permitted by the fish-hawk to build their nests among the interstices of the sticks of which his own is constructed,—several pairs of grakles taking up their abode there, like humble vassals around the castle of their chief, laying, hatching their young, and living together in mutual harmony. I have found no less than four of these nests clustered around the sides of the former, and a fifth fixed on the nearest branch of the adjoining tree; as if the proprietor of this last, unable to find an unoccupied corner on the premises, had been anxious to share, as much as possible, the company and protection of this generous bird.

The fish-hawk is twenty-two inches in length, and five feet three inches in extent; the bill is deep black, the upper as well as lower cere, (for the base of the lower mandible has a loose moveable skin,) and also

the sides of the mouth, from the nostrils backwards, are light blue; crown and hind head pure white, front streaked with brown; through the eye, a bar of dark blackish brown passes to the neck behind, which, as well as the whole upper parts, is deep brown, the edges of the feathers lighter; shafts of the wing quills brownish white; tail slightly rounded, of rather a paler brown than the body, crossed with eight bars of very dark brown; the wings, when shut, extend about an inch beyond the tail, and are nearly black towards the tips; the inner vanes of both quill and tail feathers are whitish, barred with brown; whole lower parts pure white, except the thighs, which are covered with short plumage, and streaked down the fore part with pale brown; the legs and feet are a very pale light blue, prodigiously strong and disproportionably large, and are covered with flat scales of remarkable strength and thickness, resembling, when dry, the teeth of a large rasp, particularly on the soles, intended, no doubt, to enable the bird to seize with more security his slippery prey; the thighs are long, the legs short, feathered a little below the knee, and, as well as the feet and claws, large; the latter hooked into semicircles, black, and very sharp pointed; the iris of the eye a fiery yellow orange.

The female is full two inches longer; the upper part of the head of a less pure white, and the brown streaks on the front spreading more over the crown; the throat and upper part of the breast are also dashed with large blotches of a pale brown, and the bar passing through the eye, not of so dark a brown. The toes of both are exceedingly strong and warty, and the hind claw a full inch and a quarter in diameter. The feathers on the neck and hind head are long and narrow, and generally erected when the bird is irritated, resembling those of the eagle. The eye is destitute of the projecting bone common to most of the falcon tribe; the nostril large, and of a curving triangular shape. On dissection, the two glands on the rump, which supply the bird with oil for lubricating its feathers to protect them from the

wet, were found to be remarkably large, capable, when opened, of admitting the end of the finger, and contained a large quantity of white greasy matter, and some pure yellow oil; the gall was in small quantity. The numerous convolutions and length of the intestines surprised me; when carefully extended, they measured within an inch or two of nine feet, and were no thicker than those of a robin! The crop, or craw, was middle-sized, and contained a nearly dissolved fish; the stomach was a large oblong pouch, capable of considerable distension, and was also filled with half digested fish: no appearance of a muscular gizzard.

By the descriptions of European naturalists, it would appear, that this bird, or one near akin to it, is a native of the eastern continent in summer, as far north as Siberia; the bald buzzard of Turton almost exactly agreeing with the present species in size, colour, and manners, with the exception of its breeding or making its nest among the reeds, instead of on trees. Mr Bewick, who has figured and described the female of this bird under the appellation of the Osprey, says, that "it builds on the ground, among reeds, and lays three or four eggs of an elliptical form, rather less than those of a hen." This difference of habit may be owing to particular local circumstances, such deviations being usual among many of our native birds. The Italians are said to compare its descent upon the water to a piece of lead falling upon that element; and distinguish it by the name of *aquila piumbina*, or the leaden eagle. In the United States it is every where denominated the fish-hawk, or fishing-hawk, a name truly expressive of its habits.

The regular arrival of this noted bird at the vernal equinox, when the busy season of fishing commences, adds peculiar interest to its first appearance, and procures it many a benediction from the fishermen. With the following lines, illustrative of these circumstances, I shall conclude its history:—

FALCO HALLIÆTUS.

Soon as the sun, great ruler of the year,
Bends to our northern climes his bright career,
And from the caves of ocean calls from sleep
The finny shoals and myriads of the deep ;
When freezing tempests back to Greenland ride,
And day and night the equal hours divide ;
True to the season, o'er our sea-beat shore,
The sailing osprey high is seen to soar,
With broad unmoving wing ; and, circling slow,
Marks each loose straggler in the deep below ;
Sweeps down like lightning ! plunges with a roar !
And bears his struggling victim to the shore.

The long-housed fisherman beholds with joy,
The well known signals of his rough employ ;
And, as he bears his nets and oars along,
Thus hails the welcome season with a song : —

THE FISHERMAN'S HYMN.

The osprey sails above the sound,
The geese are gone, the gulls are flying ;
The herring shoals swarm thick around,
The nets are launch'd, the boats are plying ;
Yo ho, my hearts ! let's seek the deep,
Raise high the song, and cheerly wish her,
Still as the bending net we sweep,
“ God bless the fish-hawk and the fisher ! ”

She brings us fish — she brings us spring,
Good times, fair weather, warmth, and plenty,
Fine store of shad, trout, herring, ling,
Sheepshead and drum, and old-wives' dainty.
Yo ho, my hearts ! let's seek the deep,
Ply every oar, and cheerly wish her,
Still as the bending net we sweep,
“ God bless the fish-hawk and the fisher ! ”

She rears her young on yonder tree,
She leaves her faithful mate to mind 'em ;
Like us, for fish, she sails to sea,
And, plunging, shews us where to find 'em.
Yo ho, my hearts ! let's seek the deep,
Ply every oar, and cheerly wish her,
While the slow bending net we sweep,
“ God bless the fish-hawk and the fisher ! ”

SUBGENUS IV.—*FALCO BECHSTEIN*.7. *FALCO PEREGRINUS*, WILSON.—GREAT FOOTED HAWK, OR
PEREGRINE FALCON.*

WILSON, PLATE LXXVI.—EDINBURGH COLLEGE MUSEUM.

THIS noble bird had excited our curiosity for a long time. Every visit which we made to the coast, was rendered doubly interesting by the wonderful stories which we heard of its exploits in fowling, and of its daring enterprize. There was not a gunner along the shore but knew it well; and each could relate something of it which bordered on the marvellous. It was described as darting with the rapidity of an arrow on the ducks when on the wing, and striking them down with the projecting bone of its breast. Even the wild geese were said to be in danger from its attacks, it having been known to sacrifice them to its rapacity.

To behold this hero, the terror of the wild fowl, and the wonder of the sportsman, was the chief object of our wishes. Day after day did we traverse the salt marshes, and explore the ponds and estuaries which the web-footed tribes frequent in immense multitudes, in the hope of obtaining the imperial depredator; even all the gunners of the district were summoned to our aid, with the assurance of a great reward if they procured him, but without success. At length, in the month of December, 1812, to the unspeakable joy of Mr Wilson, he received from Egg Harbour a fine specimen of the far famed duck hawk; which was discovered, contrary to his expectations, to be of a species which he had never before beheld.

If we were to repeat all the anecdotes which have

* It is also a European species.

been related to us of the achievements of the duck hawk, they would swell our pages at the expense, probably, of our reputation. Naturalists should be always on their guard when they find themselves compelled to resort to the observations of others, and record nothing as fact which has not been submitted to the temperate deliberations of reason. The reverse of this procedure has been a principal cause why errors and absurdities have so frequently deformed the pages of works of science, which, like a plane mirror, ought to reflect only the genuine images of nature.

From the best sources of information, we learn that this species is uncommonly bold and powerful; that it darts on its prey with astonishing velocity; and that it strikes with its formidable feet, permitting the duck to fall previously to securing it. The circumstance of the hawk's never carrying the duck off on striking it, has given rise to the belief of that service being performed by means of the breast, which vulgar opinion has armed with a projecting bone, adapted to the purpose. But this cannot be the fact, as the breast-bone of this bird does not differ from that of others of the same tribe, which would not admit of so violent a concussion.

When the water fowl perceive the approach of their enemy, a universal alarm pervades their ranks; even man himself, with his engine of destruction, is not more terrible. But the effect is different. When the latter is beheld, the whole atmosphere is enlivened with the whistling of wings; when the former is recognized, not a duck is to be seen in the air: they all speed to the water, and there remain until the hawk has passed them, diving the moment he comes near them. It is worthy of remark, that he will seldom, if ever, strike over the water, unless it be frozen; well knowing that it will be difficult to secure his quarry. This is something more than instinct.

When the sportsmen perceive the hawk knock down a duck, they frequently disappoint him of it, by being first to secure it. And as one evil turn, according to the maxim of the multitude, deserves another, our

hero takes ample revenge on them, at every opportunity, by robbing them of their game, the hard-earned fruits of their labour.

The duck hawk, it is said, often follows the steps of the gunner, knowing that the ducks will be aroused on the wing, which will afford it an almost certain chance of success.

We have been informed, that those ducks which are struck down, have their backs lacerated from the rump to the neck. If this be the fact, it is a proof that the hawk employs only its talons, which are long and stout, in the operation. One respectable inhabitant of Cape May told us, that he has seen the hawk strike from below.

This species has been long known in Europe; and in the age of falconry, was greatly valued for those qualifications which rendered it estimable to the lovers and followers of that princely amusement. But we have strong objections to its specific appellation. The epithet *peregrine* is certainly not applicable to our hawk, which is not migratory, as far as our most diligent inquiries can ascertain; and, as additional evidence of the fact, we ourselves have seen it prowling near the coast of New Jersey, in the month of May, and heard its screams, which resemble somewhat those of the bald eagle, in the swamps wherein it is said to breed. We have therefore taken the liberty of changing its English name for one which will at once express a characteristic designation, or which will indicate the species without the labour of investigation.*

"This species," says Pennant, "breeds on the rocks of Llandidno, in Cærnarvonshire, Wales.† That promontory has been long famed for producing a generous

* "Specific names, to be perfect, ought to express some peculiarity, common to no other of the genus." *Am. Orn.* i. p. 65.

† We suspect that Pennant is mistaken; its name denotes that it is not indigenous in Great Britain. Bewick says, "The peregrine, or passenger falcon, is *rarely* met with in Britain, and consequently is but little known with us." *British Birds*, part i. p. 71.

kind, as appears by a letter extant in Gloddaeth library, from the lord treasurer Burleigh, to an ancestor of Sir Roger Mostyn, in which his lordship thanks him for a present of a fine cast of hawks, taken on those rocks, which belong to the family. They are also very common in the north of Scotland; and are sometimes trained for falconry, by some few gentlemen who still take delight in this amusement, in that part of Great Britain. Their flight is amazingly rapid; one that was reclaimed by a gentleman in the shire of Angus, a county on the east side of Scotland, eloped from its master with two heavy bells attached to each foot, on the 24th of September, 1772, and was killed in the morning of the 26th, near Mostyn, Flintshire."*

The same naturalist in another place observes, that "*the American species is larger than the European.*"† They are subject to vary. The black falcon, and the spotted falcon of Edwards, are of this kind; each preserves a specific mark, in the black stroke which drops from beneath the eyes, down towards the neck.

"Inhabits different parts of North America, from Hudson's Bay, as low as Carolina; in Asia, is found on the highest parts of the Uralian and Siberian chain; wanders in summer to the very Arctic circle; is common in Kamtschatka."‡

In the breeding season, the duck hawk retires to the recesses of the gloomy cedar swamps, on the tall trees of which it constructs its nest, and rears its young secure from all molestation. In those wilds which present obstacles almost insuperable to the foot of man, the screams of this bird, occasionally mingled with the hoarse tones of the heron, and the hooting of the great horned owl, echoing through the dreary solitude, arouse in the imagination all the frightful imagery of desola-

* *British Zoology.*

† If we were to adopt the mode of philosophizing of the *sapient* Count de Buffon, we should infer that the European species is a variety of our more generous race, degenerated by the influence of food and climate!

‡ *Arctic Zoology.*

tion. Mr. Wilson, and the writer of this article, explored two of these swamps, in the month of May, 1813, in pursuit of the great heron and the subject of this chapter; and although they were successful in obtaining the former, yet the latter eluded their research.

The great footed hawk is twenty inches in length, and three feet eight inches in extent; the bill is inflated, short, and strong, of a light blue colour, ending in black, the upper mandible with a tooth-like process, the lower with a corresponding notch, and truncate; nostrils round, with a central point like the pistil of a flower; the eye is large and dark, surrounded with a broad bare yellowish skin, the cartilage over it yellow and prominent; frontlet whitish; the head above, cheeks, running off like mustaches, and back, are black; the wings and scapulars are brownish black, each feather edged with paler, the former long and pointed, reaching almost to the end of the tail; the primaries and secondaries are marked transversely on the inner vanes with large oblong spots of ferruginous white, the exterior edge of the tip of the secondaries curiously scalloped, as if a piece had been cut out; the tertials incline to ash colour; the lining of the wings is beautifully barred with black and white, and tinged with ferruginous; on a close examination, the scapulars and tertials are found to be barred with faint ash; all the shafts are black; the rump and tail coverts are light ash, marked with large dusky bars; the tail is rounding, black, tipped with reddish white, and crossed with eight narrow bars of very faint ash; the chin and breast, encircling the black mustaches, are of a pale buff colour; breast below and lower parts reddish buff, or pale cinnamon, handsomely marked with roundish or heart shaped spots of black; sides broadly barred with black; the femorals are elegantly ornamented with herring-bones of black on a buff ground; the vent is pale buff, marked as the femorals, though with less numerous spots; the feet and legs are of a corn yellow, the latter short and stout feathered a little below the

knees, the bare part one inch in length; span of the foot five inches, with a large protuberant sole; the claws are large and black, hind claw the largest. Whether the cere is yellow, or flesh coloured, we were uncertain, as the bird had been some time killed when received; supposed the former.

The most striking characters of this species are the broad patch of black dropping below the eye, and the uncommonly large feet. It is stout, heavy, and firmly put together.

The bird from which the above description was taken, was shot in a cedar swamp in Cape May county, New Jersey. It was a female, and contained the remains of small birds, among which were discovered the legs of the sanderling plover.

8. *FALCO SPARVERIUS*, LINNÆUS.

AMERICAN SPARROW HAWK.

WILSON, PLATE XVI. FIG. I. FEMALE. * — EDINBURGH COLLEGE MUSEUM.

IN no department of ornithology has there been greater confusion, or more mistakes made, than among this class of birds of prey. The great difference of size between the male and female, the progressive variation of plumage to which, for several years, they are subject, and the difficulty of procuring a sufficient number of specimens for examination; all these causes conspire to lead the naturalist into almost unavoidable mistakes. For these reasons, and in order, if possible, to ascertain each species of this genus distinctly, I have determined, where any doubt or ambiguity prevails, to represent

* This species is allied to the *falco tinnunculus*, or kestrel of Europe.

both male and female, as fair and perfect specimens of each may come into my possession. According to fashionable etiquette, the honour of precedence, in the present instance, is given to the *female* of this species; both because she is the most courageous, the largest and handsomest of the two, best ascertained, and less subject to change of colour than the male, who will require some farther examination, and more observation, before we can venture to introduce him.

This bird is a constant resident in almost every part of the United States, particularly in the states north of Maryland. In the southern states there is a smaller species found, which is destitute of the black spots on the head; the legs are long and very slender, and the wings light blue. This has been supposed, by some, to be the male of the present species; but this is an error. The eye of the present species is dusky; that of the smaller species a brilliant orange; the former has the tail *rounded* at the end, the latter slightly *forked*. Such essential differences never take place between two individuals of the same species. It ought, however, to be remarked, that in all the figures and descriptions I have hitherto met with of the bird now before us, the iris is represented of a bright golden colour; but, in all the specimens I have shot, I uniformly found the eye very dark, almost black, resembling a globe of black glass. No doubt the golden colour of the iris would give the figure of the bird a more striking appearance; but, in works of natural history, to sacrifice truth to mere picturesque effect is detestable; though, I fear, but too often put in practice.

The nest of this species is usually built in a hollow tree; generally pretty high up, where the top, or a large limb, has been broken off. I have never seen its eggs; but have been told, that the female generally lays four or five, which are of a light brownish yellow colour, spotted with a darker tint; the young are fed on grasshoppers, mice, and small birds, the usual food of the parents.

The habits and manners of this bird are well known.

It flies rather irregularly, occasionally suspending itself in the air, hovering over a particular spot for a minute or two, and then shooting off in another direction. It perches on the top of a dead tree or pole, in the middle of a field or meadow, and, as it alights, shuts its long wings so suddenly, that they seem instantly to disappear; it sits here in an almost perpendicular position, sometimes for an hour at a time, frequently jerking its tail, and reconnoitring the ground below, in every direction, for mice, lizards, &c. It approaches the farm-house, particularly in the morning, skulking about the barn-yard for mice or young chickens. It frequently plunges into a thicket after small birds, as if by random; but always with a particular, and generally with a fatal, aim. One day I observed a bird of this species perched on the highest top of a large poplar, on the skirts of the wood, and was in the act of raising the gun to my eye, when he swept down with the rapidity of an arrow, into a thicket of briars, about thirty yards off, where I shot him dead, and, on coming up, found a small field sparrow quivering in his grasp. Both our aims had been taken at the same instant, and, unfortunately for him, both were fatal. It is particularly fond of watching along hedge-rows, and in orchards, where small birds usually resort. When grasshoppers are plenty, they form a considerable part of its food.

Though small snakes, mice, lizards, &c. be favourite morsels with this active bird, yet we are not to suppose it altogether destitute of delicacy in feeding. It will seldom or never eat of any thing that it has not itself killed, and even that, if not (as epicures would term it) *in good eating order*, is sometimes rejected. A very respectable friend, through the medium of Mr Bartram, informs me, that one morning he observed one of these hawks dart down on the ground, and seize a mouse, which he carried to a fence post, where, after examining it for some time, he left it, and, a little while after, pounced upon another mouse, which he instantly carried off to his nest, in the hollow of a tree hard by. The gentleman, anxious to know why the hawk had rejected

the first mouse, went up to it, and found it to be almost covered with lice, and greatly emaciated! Here was not only delicacy of taste, but sound and prudent reasoning;—If I carry this to my nest, thought he, it will fill it with vermin, and hardly be worth eating.

The blue jays have a particular antipathy to this bird, and frequently insult it by following and imitating its notes so exactly, as to deceive even those well acquainted with both. In return for all this abuse, the hawk contents himself with, now and then, feasting on the plumpest of his persecutors, who are, therefore, in perpetual dread of him; and yet, through some strange infatuation, or from fear that, if they lose sight of him, he may attack them unawares, the sparrow hawk no sooner appears than the alarm is given, and the whole posse of jays follow.

The female of this species is eleven inches long, and twenty-three from tip to tip of the expanded wings. The cere and legs are yellow; bill blue, tipped with black; space round the eye, greenish blue; iris, deep dusky; head, bluish ash; crown, rufous; seven spots of black on a white ground surround the head; whole upper parts reddish bay, transversely streaked with black; primary and secondary quills, black, spotted on their inner vanes with brownish white; whole lower parts yellowish white, marked with longitudinal streaks of brown, except the chin, vent, and femoral feathers, which are white; claws, black.

The male of this species (which is an inch and a half shorter, has the shoulder of the wings blue, and also the black marks on the head, but is, in other respects, very differently marked from the female) will be described in the next article, with such other particulars as may be thought worthy of communicating.

9. *FALCO SPARVERIUS*, LINNÆUS.

AMERICAN SPARROW HAWK.

WILSON, PLATE XXXII. FIG. II. MALE. — EDINBURGH COLLEGE MUSEUM.

THE female of this species is described in the preceding article.

The male sparrow hawk measures about ten inches in length, and twenty-one in extent; the whole upper parts of the head are of a fine slate blue, the shafts of the plumage being black, the crown excepted, which is marked with a spot of bright rufous; the slate tapers to a point on each side of the neck; seven black spots surround the head, as in the female, on a reddish white ground, which also borders each sloping side of the blue; front, lores, line over and under the eye, chin, and throat, white; femoral and vent feathers, yellowish white; the rest of the lower parts, of the same tint, each feather being streaked down the centre with a long black drop, those on the breast, slender, on the sides, larger; upper part of the back and scapulars, deep reddish bay, marked with ten or twelve transverse waves of black; whole wing-coverts and ends of the secondaries, black, tip with white, and spotted on their inner vanes with the same; lower part of the back, the rump, and tail-coverts, plain bright bay; tail rounded, the two exterior feathers white, their inner vanes beautifully spotted with black; the next, bright bay, with a broad band of black near its end, and tip for half an inch with yellowish white; part of its lower exterior edge, white, spotted with black, and its opposite interior edge, touched with white; the whole of the

others are very deep red bay, with a single broad band of black near the end, and tipped with yellowish white; cere and legs, yellow; orbits, the same; bill, light blue; iris of the eye, dark, almost black; claws, blue black.

The character of this corresponds with that of the female, given at large in the preceding article. I have reason, however, to believe, that these birds vary considerably in the colour and markings of their plumage during the first and second years; having met with specimens every way corresponding with the above, except in the breast, which was a plain rufous white, without spots; the markings on the tail also differing a little in different specimens. These I uniformly found, on dissection, to be males; from the stomach of one of which I took a considerable part of the carcass of a robin, (*turdus migratorius*), including the unbroken feet and claws; though the robin actually measures within half an inch as long as the sparrow hawk.

10. *FALCO COLUMBARIUS*, LINN.

PIGEON HAWK.

WILSON, PLATE XV. FIG. III. MALE. — EDINBURGH COLLEGE MUSEUM.

THIS small hawk possesses great spirit and rapidity of flight. He is generally migratory in the middle and northern states, arriving in Pennsylvania early in spring, and extending his migrations as far north as Hudson's Bay. After building and rearing his young, he retires to the south early in November. Small birds and mice are his principal food. When the reed-birds, grackles, and red-winged blackbirds congregate in large flights, he is often observed hovering in their rear, or on their flanks, picking up the weak, the wounded, or stragglers,

and frequently making a sudden and fatal sweep into the very midst of their multitudes. The flocks of robins and pigeons are honoured with the same attentions from this marauder, whose daily excursions are entirely regulated by the movements of the great body on whose unfortunate members he fattens. The individual from which the present description was taken, was shot in the meadows below Philadelphia in the month of August. He was carrying off a blackbird (*oriolus phæniceus*) from the flock, and, though mortally wounded and dying, held his prey fast till his last expiring breath, having struck his claws into its very heart. This was found to be a male. Sometimes when shot at, and not hurt, he will fly in circles over the sportsman's head, shrieking out with great violence, as if highly irritated. He frequently flies low, skimming a little above the field. I have never seen his nest.

The pigeon hawk is eleven inches long, and twenty-three broad; the whole upper parts are of a deep dark brown, except the tail, which is crossed with bars of white; the inner vanes of the quill feathers are marked with round spots of reddish brown; the bill is short, strongly toothed, of a light blue colour, and tipped with black; the skin surrounding the eye, greenish; cere, the same; temples and line over the eye, lighter brown; the lower parts, brownish white, streaked laterally with dark brown; legs, yellow; claws, black. The female is an inch and a half longer, of a still deeper colour, though marked nearly in the same manner, with the exception of some white on the hind head. The femoral, or thigh feathers, in both are of a remarkable length, reaching nearly to the feet, and are also streaked longitudinally with dark brown. The irides of the eyes of this bird have been hitherto described as being of a brilliant yellow; but every specimen I have yet met with had the iris of a deep hazel. I must therefore follow nature, in opposition to very numerous and respectable authorities.

I cannot, in imitation of European naturalists, embellish the history of this species with anecdotes of its

exploits in falconry. This science, if it may be so called, is among the few that have never yet travelled across the Atlantic; neither does it appear that the idea of training our hawks or eagles to the chase, ever suggested itself to any of the Indian nations of North America. The Tartars, however, from whom, according to certain writers, many of these nations originated, have long excelled in the practice of this sport; which is indeed better suited to an open country than to one covered with forest. Though once so honourable and so universal, it is now much disused in Europe, and in Britain is nearly extinct. Yet I cannot but consider it as a much more noble and princely amusement than horse-racing and cock-fighting, cultivated in certain states with so much care; or even than pugilism, which is still so highly patronized in some of those enlightened countries.

SUBGENUS V.—*ASTUR*, BECHSTEIN.

11. *FALCO PALUMBARIUS*, LINN.—*FALCO ATRICAPILLUS*, WILSON.

ASH-COLOURED, OR BLACK-CAP HAWK.

WILSON, PLATE LII. FIG. III.*—EDINBURGH COLLEGE MUSEUM.

OF this beautiful species I can find no precise description. The ash-coloured buzzard of Edwards differs so much from this, particularly in wanting the fine zig-zag lines below, and the black cap, that I cannot for a moment suppose them to be the same. The individual here described was shot within a few miles

* The bird here described is the goshawk, and is also a European species.

of Philadelphia, and is now preserved, in good order, in Mr Peale's museum.

Its general make and aspect denotes great strength and spirit; its legs are strong, and its claws of more than proportionate size. Should any other specimen or variety of this hawk, differing from the present, occur during the publication of this work, it will enable me more accurately to designate the species.

The black-cap hawk is twenty-one inches in length; the bill and cere are blue; eye, reddish amber; crown, black, bordered on each side by a line of white finely speckled with black; these lines of white meet on the hind head; whole upper parts, slate, tinged with brown, slightest on the quills; legs, feathered half way down, and, with the feet, of a yellow colour; whole lower parts and femorals, white, most elegantly speckled with fine transverse pencilled zig-zag lines of dusky, all the shafts being a long black line; vent, pure white.

If this be not the celebrated *goshawk*, formerly so much esteemed in falconry, it is very closely allied to it. I have never myself seen a specimen of that bird in Europe; and the descriptions of their best naturalists vary considerably; but, from a careful examination of the figure and account of the goshawk, given by the ingenious Mr Bewick, (*Brit. Birds*, vol. i. p. 65,) I have very little doubt that the present will be found to be the same.

The goshawk inhabits France and Germany; is not very common in South Britain, but more frequent in the northern parts of the island, and is found in Russia and Siberia. Buffon, who reared two young birds of this kind, a male and female, observes, that "the goshawk, before it has shed its feathers, that is, in its first year, is marked on the breast and belly with longitudinal brown spots; but, after it has had two moultings, they disappear, and their place is occupied by transverse waving bars, which continue during the rest of its life." He also takes notice, that though the male was much smaller than the female, it was fiercer and more vicious.

Mr Pennant informs us, that the goshawk is used by the Emperor of China in his sporting excursions, when he is usually attended by his grand falconer, and a thousand of inferior rank. Every bird has a silver plate fastened to its foot, with the name of the falconer who has the charge of it, that, in case it should be lost, it may be restored to the proper person; but, if he should not be found, the bird is delivered to another officer, called the guardian of lost birds, who, to make his situation known, erects his standard in a conspicuous place among the army of hunters. The same writer informs us, that he examined, in the Leverian Museum, a specimen of the goshawk which came from America, and which was superior in size to the European. He adds, "they are the best of all hawks for falconry."*

12. *FALCO PENNSYLVANICUS*, WILSON.—BROAD-WINGED HAWK.

WILSON, PLATE LIV. FIG. 1.

THIS hawk was shot on the 6th of May, in Mr Bartram's woods, near the Schuylkill, and was afterwards presented to Mr Peale, in whose collection it now remains. It was perched on the dead limb of a high tree, feeding on something, which was afterwards found to be the meadow mouse. On my approach, it uttered a whining kind of whistle, and flew off to another tree, where I followed and shot it. Its great breadth of wing, or width of the secondaries, and also of its head and body, when compared with its length, struck me as peculiarities. It seemed a remarkably strong-built bird, handsomely marked, and was altogether unknown to me. Mr Bartram, who examined it very attentively, declared he had never before seen such a hawk. On the afternoon of the next day, I observed another, probably its mate or companion, and certainly one of the

* *Arct. Zool.* p. 204.

same species, sailing about over the same woods. Its motions were in wide circles, with unmoving wings, the exterior outline of which seemed a complete semi-circle. I was extremely anxious to procure this also, if possible; but it was attacked and driven away by a king-bird before I could effect my purpose, and I have never since been fortunate enough to meet with another. On dissection, the one I had shot proved to be a male.

In size this hawk agrees, nearly, with the *buzzardet*, (*falco albidus*,) of Turton, described also by Pennant;* but either the descriptions of these authors are very inaccurate, the change of colour which that bird undergoes very great, or the present is altogether a different species. Until, however, some other specimens of this hawk come under my observation, I can only add the following particulars of its size and plumage:—

Length, fourteen inches; extent, thirty-three inches; bill, black, blue near the base, slightly toothed; cere and corners of the mouth, yellow; irides, bright amber; frontlet and lores, white; from the mouth backwards runs a streak of blackish brown; upper parts, dark brown, the plumage tipt and the head streaked with whitish; almost all the feathers above are spotted or barred with white, but this is not seen unless they be separated by the hand; head, large, broad, and flat; cere very broad; the nostril also large; tail short, the exterior and interior feathers somewhat the shortest, the others rather longer, of a full black, and crossed with two bars of white, tipt also slightly with whitish; tail coverts, spotted with white; wings, dusky brown, indistinctly barred with black; greater part of the inner vanes, snowy; lesser coverts, and upper part of the back, tipt and streaked with bright ferruginous; the bars of black are very distinct on the lower side of the wing; lining of the wing, brownish white, beautifully marked with small arrow-heads of brown; chin, white, surrounded by streaks of black; breast and sides, elegantly spotted with large arrow-heads of brown centered with pale

* *Arct. Zool.* No. 109.

brown; belly and vent, like the breast, white, but more thinly marked with pointed spots of brown; femorals, brownish white, thickly marked with small touches of brown and white; vent, white; legs, very stout; feet, coarsely scaled, both of a dirty orange yellow; claws, semicircular, strong and very sharp, hind one considerably the largest:

While examining the plumage of this bird, a short time after it was shot, one of those winged ticks with which many of our birds are infested, appeared on the surface of the feathers, moving about, as they usually do, backwards or sideways like a crab, among the plumage, with great facility. The fish-hawk, in particular, is greatly pestered with these vermin, which occasionally leave him, as suits their convenience. A gentleman who made the experiment, assured me, that, on plunging a live fish-hawk under water, several of these winged ticks remained hovering over the spot, and, the instant the hawk rose above the surface, darted again among his plumage. The experiment was several times made, with the like result. As soon, however, as these parasites perceive the dead body of their patron beginning to become cold, they abandon it; and, if the person who holds it have his head uncovered, dive instantly among his hair, as I have myself frequently experienced; and, though driven from thence, repeatedly return, till they are caught and destroyed. There are various kinds of these ticks. Of the one found on the present hawk, the head and thorax were light brown; the legs, six in number, of a bright green, their joints moving almost horizontally, and thus enabling the creature to pass with the greatest ease between the laminae of feathers; the wings were single, of a dark amber colour, and twice as long as the body, which widened towards the extremity, where it was slightly indented; feet, two clawed.

This insect lived for several days between the crystal and dial-plate of a watch, carried in the pocket; but, being placed for a few minutes in the sun, fell into convulsions and died.

13. *FALCO VELOX.*

SHARP-SHINNED HAWK.

WILSON, PLATE XLV. FIG. I. — YOUNG BIRD.

THIS is a bold and daring species, hitherto unknown to naturalists. The only hawk we have which approaches near it in colour is the pigeon hawk, already described in this work; but there are such striking differences in the present, not only in colour, but in other respects, as to point out decisively its claims to rank as a distinct species. Its long and slender legs and toes; its red fiery eye, feathered to the eyelids; its triangular grooved nostril, and length of tail, are all different from the pigeon hawk, whose legs are short, its eyes dark hazel, surrounded with a broad bare yellow skin, and its nostrils small and circular, centered with a slender point that rises in it like the pistil of a flower. There is no hawk mentioned by Mr Pennant either as inhabiting Europe or America, agreeing with this. I may, therefore, with confidence, pronounce it a non-descript; and have chosen a very singular peculiarity which it possesses for its specific appellation.

This hawk was shot on the banks of the Schuylkill, near Mr Bartram's. Its singularity of flight surprised me long before I succeeded in procuring it. It seemed to throw itself from one quarter of the heavens to the other, with prodigious velocity, inclining to the earth, swept suddenly down into a thicket, and instantly reappeared with a small bird in its talons. This feat I saw it twice perform, so that it was not merely an accidental manœuvre. The rapidity and seeming violence of these zig-zag excursions were really remarkable, and appeared to me to be for the purpose of seizing his prey by sudden surprise and main force of flight. I kept this hawk alive for several days, and was hopeful I might be able to cure him; but he died of his wound.

On the 15th of September, two young men whom I had despatched on a shooting expedition, met with this species on one of the ranges of the Alleghany. It was driven around in the same furious headlong manner, and had made a sweep at a red squirrel, which eluded its grasp, and itself became the victim. These are the only individuals of this bird I have been able to procure, and fortunately they were male and female.

The female of this species was thirteen inches long, and twenty-five inches in extent; the bill, black towards the point on both mandibles, but light blue at its base; cere, a fine pea green; sides of the mouth, the same; lores, pale whitish blue, beset with hairs; crown and whole upper parts, very dark brown, every feather narrowly skirted with a bright rust colour; over the eye a stripe of yellowish white, streaked with deep brown; primaries, spotted on their inner vanes with black; secondaries, crossed on both vanes with three bars of dusky, below the coverts; inner vanes of both primaries and secondaries, brownish white; all the scapulars marked with large round spots of white, not seen unless the plumage be parted with the hand; tail, long, nearly even, crossed with four bars of black and as many of brown ash, and tipped with white; throat and whole lower parts, pale yellowish white; the former marked with fine long pointed spots of dark brown, the latter with large oblong spots of reddish brown; femorals, thickly marked with spade-formed spots, on a pale rufous ground; legs, long, and feathered a little below the knee, of a greenish yellow colour, most yellow at the joints; edges of the inside of the shins, below the knee, projecting like the edge of a knife, hard and sharp, as if intended to enable the bird to hold its prey with more security between them; eye, brilliant yellow, sunk below a projecting cartilage.

The male was nearly two inches shorter; the upper parts, dark brown; the feathers, skirted with pale reddish, the front also streaked with the same; cere, greenish yellow; lores, bluish; bill, black, as in the female; streak over the eye, lighter than in the former;

chin, white; breast the same, streaked with brown; bars on the tail rather narrower, but in tint and number the same; belly and vent, white; feet and shins exactly as in the female; the toes have the same pendulous lobes which mark those of the female; the wings barred with black, very noticeable on the lower side.

Since writing the above, I have shot another specimen of this hawk, corresponding in almost every particular with the male last mentioned; and which on dissection also proves to be a male. This last had within the grasp of his sharp talons a small lizard, just killed, on which he was about to feed. How he contrived to get possession of it appeared to me matter of surprise, as lightning itself seems scarcely more fleet than this little reptile, which is known in many parts of the country by the name of the swift. So rapid are its motions, that, in passing from one place to another, it vanishes, and actually eludes the eye in running a distance of twelve or fifteen feet. It is frequently seen on fences that are covered with gray moss and lichen, which in colour it very much resembles; it seeks shelter in hollow trees, and also in the ground about their decayed roots. They are most numerous in hilly parts of the country, particularly on the declivities of the Blue Mountain, among the crevices of rocks and stones. When they are disposed to run, it is almost impossible to shoot them, as they disappear at the first touch of the trigger.

14. *FALCO PENNSYLVANICUS*, * WILSON.

SLATE COLOURED HAWK. — OLD BIRD.

WILSON, PLATE XLVI. FIG. 1.

THIS elegant and spirited little hawk is a native of Pennsylvania, and of the Atlantic states generally; and

* This bird is the adult of the *falco velox*.

is now for the first time introduced to the notice of the public. It frequents the more settled parts of the country, chiefly in winter; is at all times a scarce species; flies wide, in a very irregular manner, and swiftly; preys on lizards, mice, and small birds, and is an active and daring little hunter.

The great difficulty of accurately discriminating between different species of the hawk tribe, on account of the various appearances they assume at different periods of their long lives, at first excited a suspicion that this might be one of those with which I was already acquainted, in a different dress, namely the sharp-shinned hawk just described; for such are the changes of colour to which many individuals of this genus are subject, that, unless the naturalist has recourse to those parts that are subject to little or no alteration in the full grown bird, viz. the particular conformation of the legs, nostril, tail, and the relative length of the latter to that of the wings, also the peculiar character of the countenance, he will frequently be deceived. By comparing these, the same species may often be detected under a very different garb. Were all these changes accurately known, there is no doubt but the number of species of this tribe, at present enumerated, would be greatly diminished, the same bird having been described by certain writers three, four, and even five different times as so many distinct species. Testing, however, the present hawk by the rules above-mentioned, I have no hesitation in considering it as a species different from any hitherto described; and I have classed it accordingly.

The slate-coloured hawk is eleven inches long, and twenty-one inches in extent; bill, blue black; cere and sides of the mouth, dull green; eyelid, yellow; eye, deep sunk under the projecting eyebrow, and of a fiery orange colour; upper parts of a fine slate; primaries, brown black, and, as well as the secondaries, barred with dusky; scapulars, spotted with white and brown, which is not seen unless the plumage be separated by the hand; all the feathers above are shafted with

black; tail, very slightly forked, of an ash colour, faintly tinged with brown, crossed with four broad bands of black, and tipped with white; tail, three inches longer than the wings; over the eye extends a streak of dull white; chin, white, mixed with fine black hairs; breast and belly, beautifully variegated with ferruginous and transverse spots of white; femorals, the same; vent, pure white; legs, long, very slender, and of a rich orange yellow; claws, black, large, and remarkably sharp; lining of the wing, thickly marked with heart-shaped spots of black. This bird, on dissection, was found to be a male. In the month of February, I shot another individual of this species, near Hampton, in Virginia, which agreed almost exactly with the present.

SUBGENUS VI. — *ICTINIA*, VIEILL.

15. *FALCO MISSISSIPPIENSIS*, WILSON. — MISSISSIPPI KITE.

WILSON, PLATE XXV. FIG. 1. — MALE.

THIS new species I first observed in the Mississippi territory, a few miles below Natchez, on the plantation of William Dunbar, Esq. To the hospitality of this gentleman, and his amiable family, I am indebted for the opportunity afforded me of procuring this and one or two more new species. This excellent man, whose life has been devoted to science, though at that time confined to bed by a severe and dangerous indisposition, and personally unacquainted with me, no sooner heard of my arrival at the town of Natchez, than he sent a servant and horses, with an invitation and request, to come and make his house my home and head-quarters, while engaged in exploring that part of the country. The few happy days I spent there I shall never forget.

In my perambulations I frequently remarked this hawk sailing about in easy circles, and at a considerable height in the air, generally in company with the turkey

buzzards, whose manner of flight it so exactly imitates as to seem the same species, only in miniature, or seen at a more immense height. Why these two birds, whose food and manners, in other respects, are so different, should so frequently associate together in air, I am at a loss to comprehend. We cannot for a moment suppose them mutually deceived by the similarity of each other's flight: the keenness of their vision forbids all suspicion of this kind. They may perhaps be engaged, at such times, in mere amusement, as they are observed to soar to great heights previous to a storm; or, what is more probable, they may both be in pursuit of their respective food. One, that he may reconnoitre a vast extent of surface below, and trace the tainted atmosphere to his favourite carrion; the other in search of those large beetles, or coleopterous insects, that are known often to wing the higher regions of the air; and which, in the three individuals of this species of hawk which I examined by dissection, were the only substances found in their stomachs. For several miles, as I passed near Bayo Manchak, the trees were swarming with a kind of cicada, or locust, that made a deafening noise; and here I observed numbers of the hawk now before us sweeping about among the trees like swallows, evidently in pursuit of these locusts; so that insects, it would appear, are the principal food of this species. Yet when we contemplate the beak and talons of this bird, both so sharp and powerful, it is difficult to believe that they were not intended by nature for some more formidable prey than beetles, locusts, or grasshoppers; and I doubt not but mice, lizards, snakes, and small birds, furnish him with an occasional repast.

This hawk, which proved to be a male, though wounded and precipitated from a vast height, exhibited, in his distress, symptoms of great strength, and an almost unconquerable spirit. I no sooner approached to pick him up than he instantly gave battle, striking rapidly with his claws, wheeling round and round as he lay partly on his rump; and defending himself with great

vigilance and dexterity; while his dark red eye sparkled with rage. Notwithstanding all my caution in seizing him to carry him home, he struck his hind claw into my hand with such force as to penetrate into the bone. Anxious to preserve his life, I endeavoured gently to disengage it; but this made him only contract it the more powerfully, causing such pain that I had no other alternative but that of cutting the sinew of his heel with my penknife. The whole time he lived with me, he seemed to watch every movement I made; erecting the feathers of his hind head, and eyeing me with savage fierceness; considering me, no doubt, as the greater savage of the two. What effect education might have had on this species under the tutorship of some of the old European professors of falconry, I know not; but if extent of wing, and energy of character, and ease and rapidity of flight, would have been any recommendations to royal patronage, this species possesses all these in a very eminent degree.

The long pointed wings and forked tail point out the affinity of this bird to that family or subdivision of the falco genus, distinguished by the name of kites, which sail without flapping the wings, and eat from their talons as they glide along.

The Mississippi kite measures fourteen inches in length, and thirty-six inches, or three feet, in extent! The head, neck, and exterior webs of the secondaries, are of a hoary white; the lower parts a whitish ash; bill, cere, lores, and narrow line round the eye, black; back, rump, scapulars, and wing coverts, dark blackish ash; wings, very long and pointed, the third quill the longest; the primaries are black, marked down each side of the shaft with reddish sorrel; primary coverts also slightly touched with the same; all the upper plumage at the roots is white; the scapulars are also spotted with white; but this cannot be perceived unless the feathers be blown aside; tail, slightly forked, and, as well as the rump, jet black; legs, vermilion, tinged with orange, and becoming blackish towards the toes; claws, black; iris of the eye, dark red; pupil, black.

SUBGENUS VII. — *ELANUS*, SAVIGNY.16. *FALCO FURCATUS*. — SWALLOW-TAILED HAWK.

WILSON, PL. LI. FIG. II. MALE. — EDINBURGH COLLEGE MUSEUM.

THIS very elegant species inhabits the southern districts of the United States in summer; is seldom seen as far north as Pennsylvania, but is very abundant in South Carolina and Georgia, and still more so in West Florida, and the extensive prairies of Ohio and the Indiana territory. I met with these birds in the early part of May, at a place called Duck Creek, in Tennessee, and found them sailing about in great numbers near Bayo Manchac on the Mississippi, twenty or thirty being within view at the same time. At that season a species of cicada, or locust, swarmed among the woods, making a deafening noise, and I could perceive these hawks frequently snatching them from the trees. A species of lizard, which is very numerous in that quarter of the country, and has the faculty of changing its colour at will, also furnishes the swallow-tailed hawk with a favourite morsel. These lizards are sometimes of the most brilliant light green, in a few minutes change to a dirty clay colour, and again become nearly black. The swallow-tailed hawk, and Mississippi kite, feed eagerly on this lizard; and, it is said, on a small green snake also, which is the mortal enemy of the lizard, and frequently pursues it to the very extremity of the branches, where both become the prey of the hawk.*

The swallow-tailed hawk retires to the south in October, at which season, Mr Bartram informs me, they

* This animal, if I mistake not, is the *lacerta bullaris*, or bladder lizard, of Turton, vol. i. p. 666. The facility with which it changes colour is surprising, and not generally known to naturalists.

are seen in Florida, at a vast height in the air, sailing about with great steadiness; and continue to be seen thus, passing to their winter quarters, for several days. They usually feed from their claws as they fly along. Their flight is easy and graceful, with sometimes occasional sweeps among the trees, the long feathers of their tail spread out, and each extremity of it used, alternately to lower, elevate, or otherwise direct their course. I have never yet met with their nests.

These birds are particularly attached to the extensive prairies of the western countries, where their favourite snakes, lizards, grasshoppers, and locusts are in abundance. They are sometimes, though rarely, seen in Pennsylvania and New Jersey, and that only in long and very warm summers. A specimen now in the Museum of Philadelphia, was shot within a few miles of that city. We are informed, that one was taken in the South Sea, off the coast which lies between Ylo and Arica, in about lat. 23 deg. south, on the eleventh of September, by the Reverend the Father Louis Feuillée.* They are also common in Mexico, and extend their migrations as far as Peru.

The swallow-tailed hawk measures full two feet in length, and upwards of four feet six inches in extent; the bill is black; cere, yellow, covered at the base with bristles; iris of the eye, silvery cream, surrounded with a blood-red ring; whole head and neck pure white, the shafts fine black hairs; the whole lower parts also pure white; the throat and breast shafted in the same manner; upper parts, or back, black, glossed with green and purple; whole lesser coverts, very dark purple; wings long, reaching within two inches of the tip of the tail, and black; tail also very long, and remarkably forked, consisting of twelve feathers, all black, glossed with green and purple; several of the tertials white, or edged with white, but generally covered by the scapulars; inner vanes of the secondaries, white on their

† *Jour. des Obs.* tom. ii, 33.

upper half, black towards their points; lining of the wings white; legs, yellow, short, and thick, and feathered before half way below the knee; claws, much curved, whitish; outer claw, very small. The greater part of the plumage is white at the base; and, when the scapulars are a little displaced, they appear spotted with white.

This was a male in perfect plumage. The colour and markings of the male and female are nearly alike.

SUBGENUS VIII. — *RATEO*, BECHSTEIN.

17. *FALCO LAGOPUS*, WILSON. — ROUGH-LEGGED FALCON.

WILSON, PLATE XXXIII. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

THIS handsome species, notwithstanding its formidable size and appearance, spends the chief part of the winter among our low swamps and meadows, watching for mice, frogs, lame ducks, and other inglorious game. Twenty or thirty individuals of this family have regularly taken up their winter quarters, for several years past, and probably long anterior to that date, in the meadows below this city, between the rivers Delaware and Schuylkill, where they spend their time watching along the dry banks like cats; or sailing low and slowly over the surface of the ditches. Though rendered shy from the many attempts made to shoot them, they seldom fly far, usually from one tree to another at no great distance, making a loud squeeling as they arise, something resembling the neighing of a young colt, though in a more shrill and savage tone.

On comparing these with Pennant's description,* they corresponded so exactly, that no doubts remain of their being the same species. Towards the beginning

* *Arctic Zoology*, p. 200, No. 92.

of April, these birds abandon this part of the country, and retire to the north to breed.

They are common, during winter, in the lower parts of Maryland, and numerous in the extensive meadows below Newark, New Jersey; are frequent along the Connecticut river, and, according to Pennant, inhabit England, Norway, and Lapmark. Their flight is slow and heavy. They are often seen coursing over the surface of the meadows, long after sunset, many times in pairs. They generally roost on the tall detached trees that rise from these low grounds; and take their stations, at day-break, near a ditch, bank, or hay stack, for hours together, watching, with patient vigilance, for the first unlucky frog, mouse, or lizard, to make its appearance. The instant one of these is descried, the hawk, sliding into the air, and taking a circuitous course along the surface, sweeps over the spot, and in an instant has his prey grappled and sprawling in the air.

The rough-legged hawk measures twenty-two inches in length, and four feet two inches in extent; cere, sides of the mouth, and feet, rich yellow; legs, feathered to the toes, with brownish yellow plumage, streaked with brown; femorals the same; toes, comparatively short; claws and bill, blue black; iris of the eye, bright amber; upper part of the head, pale ochre, streaked with brown; back and wings, chocolate, each feather edged with bright ferruginous; first four primaries, nearly black about the tips, edged externally with silvery in some lights; rest of the quills, dark chocolate; lower side, and interior vanes, white; tail coverts, white; tail, rounded, white, with a broad band of dark brown near the end, and tipped with white; body below, and breast, light yellow ochre, blotched and streaked with chocolate. What constitutes a characteristic mark of this bird, is a belt, or girdle, of very dark brown, passing round the belly just below the breast, and reaching under the wings to the rump; head, very broad, and bill uncommonly small, suited to the humility of its prey.

The female is much darker, both above and below, particularly in the belt, or girdle, which is nearly black; the tail coverts are also spotted with chocolate; she is also something larger.

18. *FALCO NIGER*, WILSON. — *FALCO SANCTI-JOHAANNIS*, GMELIN.

BLACK HAWK.

WILSON, PLATE LIII. FIG. I. — ADULT BIRD.

THIS is a remarkably shy and wary bird, found most frequently along the marshy shores of our large rivers; feeds on mice, frogs, and moles; sails much, and sometimes at a great height; has been seen to kill a duck on wing; sits by the side of the marshes on a stake for an hour at a time, in an almost perpendicular position, as if dozing: flies with great ease, and occasionally with great swiftness, seldom flapping the wings; seems particularly fond of river shores, swamps, and marshes; is most numerous with us in winter, and but rarely seen in summer; is remarkable for the great size of its eye, length of its wings, and shortness of its toes. The breadth of its head is likewise uncommon.

The black hawk is twenty-one inches long, and four feet two inches in extent; bill, bluish black; cere, and sides of the mouth, orange yellow; feet the same; eye, very large; iris, bright hazel; cartilage, overhanging the eye, prominent, of a dull greenish colour; general colour above, brown black, slightly dashed with dirty white; nape of the neck, pure white under the surface; front, white; whole lower parts, black, with slight tinges of brown; and a few circular touches of the same on the femorals; legs, feathered to the toes, and black touched with brownish; the wings reach rather beyond the tip of the tail; the five first primaries are white on their inner vanes; tail, rounded at the end, deep black, crossed with five narrow bands of pure white, and broadly tipped with dull white; vent, black,

spotted with white; inside vanes of the primaries, snowy; claws, black, strong and sharp; toes, remarkably short.

I strongly suspect this bird to be of the very same species with the next, though both were found to be males. Although differing greatly in plumage, yet in all their characteristic features they strikingly resemble each other. The chocolate coloured hawk of Pennant, and St John's falcon, of the same author,* are doubtless varieties of this; and, very probably, his rough-legged falcon also. His figures, however, are bad, and ill calculated to exhibit the true form and appearance of the bird.

This species is a native of North America alone. We have no account of its ever having been seen in any part of Europe; nor have we any account of its place or manner of breeding.

19. BLACK HAWK.

WILSON, PLATE LIII. FIG. II. — YOUNG BIRD.

THIS is probably a younger bird of the preceding species, being, though a male, somewhat less than its companion. Both were killed in the same meadow, at the same place and time. In form, features, and habits, it exactly agreed with the former.

This bird measures twenty inches in length, and in extent four feet; the eyes, bill, cere, toes, and claws, were as in the preceding; head above, white, streaked with black and light brown; along the eyebrows a black line; cheeks, streaked like the head; neck, streaked with black and reddish brown, on a pale yellowish white ground; whole upper parts brown black, dashed with brownish white and pale ferruginous; tail, white for half its length, ending in brown, marked with one or two

* *Arctic Zoology*, Nos. 93 and 94.

bars of dusky and a large bar of black, and tip with dull white; wings as in the preceding, their lining variegated with black, white, and ferruginous; throat and breast brownish yellow, dashed with black; belly beautifully variegated with spots of white, black, and pale ferruginous; femorals and feathered legs the same, but rather darker; vent, plain brownish white.

The original colour of these birds in their young state may probably be pale brown, as the present individual seemed to be changing to a darker colour on the neck and sides of the head. This change, from pale brown to black, is not greater than some of the genus are actually known to undergo. One great advantage of examining living, or newly killed specimens, is, that whatever may be the difference of colour between any two, the eye, countenance, and form of the head, instantly betray the common family to which they belong; for this family likeness is never lost in the living bird, though in stuffed skins and preserved specimens it is frequently entirely obliterated. I have no hesitation, therefore, in giving it as my opinion, that the present and preceding birds are of the same species, differing only in age, both being males. Of the female I am unable at present to speak.

Pennant, in his account of the chocolate-coloured hawk, which is, very probably, the same with the present and preceding species, observes, that it preys much on ducks, sitting on a rock, and watching their rising, when instantly strikes them.

While traversing our sea coast and salt marshes, between Cape May and Egg Harbour, I was everywhere told of a *duck hawk*, noted for striking down ducks on wing, though flying with their usual rapidity. Many extravagancies were mingled with these accounts, particularly, that it always struck the ducks with its breast-bone, which was universally said to project several inches, and to be strong and sharp. From the best verbal descriptions I could obtain of this hawk, I have strong suspicions that it is no other than the *black hawk*, as its wings were said to be long and very pointed, the colour very dark, the size nearly alike, and several other traits

given, that seemed particularly to belong to this species. As I have been promised specimens of this celebrated hawk next winter, a short time will enable me to determine the matter more satisfactorily. Few gunners in that quarter are unacquainted with the *duck hawk*, as it often robs them of their wounded birds before they are able to reach them.

20. *FALCO BOREALIS*, WILSON. — RED-TAILED HAWK.

WILSON, PLATE LII. FIG. I. — ADULT.

BIRDS naturally thinly dispersed over a vast extent of country; retiring during summer to the depth of the forests to breed; approaching the habitations of man, like other thieves and plunderers, with shy and cautious jealousy; seldom permitting a near advance; subject to great changes of plumage; and, since the decline of falconry, seldom or never domesticated,—offer to those who wish eagerly to investigate their history, and to delineate their particular character and manners, great and insurmountable difficulties. Little more can be done in such cases than to identify the species, and trace it through the various quarters of the world where it has been certainly met with.

The red-tailed hawk is most frequently seen in the lower parts of Pennsylvania during the severity of winter. Among the extensive meadows that border the Schuylkill and Delaware, below Philadelphia, where flocks of larks, (*alauda magna*,) and where mice and moles are in great abundance, many individuals of this hawk spend the greater part of the winter. Others prowl around the plantations, looking out for vagrant chickens; their method of seizing which is, by sweeping swiftly over the spot, and grappling them with their talons, and so bearing them away to the woods. The bird, from which the following description was taken,

was surprised in the act of feeding on a hen he had just killed, and which he was compelled to abandon. The remains of the chicken were immediately baited to a steel trap, and early the next morning the unfortunate red-tail was found a prisoner, securely fastened by the leg. The same hen, which the day before he had massacred, was, the very next, made the means of decoying him to his destruction,—in the eye of the farmer a system of fair and just retribution.

This species inhabits the whole United States, and, I believe, is not migratory, as I found it, in the month of May, as far south as Fort Adams, in the Mississippi territory. The young were, at that time, nearly as large as their parents, and were very clamorous, making an incessant squealing noise. One, which I shot, contained in its stomach mingled fragments of frogs and lizards.

The red-tailed hawk is twenty inches long, and three feet nine inches in extent; bill, blue black; cere, and sides of the mouth, yellow, tinged with green; lores, and spot on the under eyelid, white, the former marked with fine radiating hairs; eyebrow, or cartilage, a dull eel-skin colour, prominent, projecting over the eye; a broad streak of dark brown extends from the sides of the mouth backwards; crown and hind head, dark brown, seamed with white, and ferruginous; sides of the neck, dull ferruginous, streaked with brown; eye, large; iris, pale amber; back and shoulders, deep brown; wings, dusky, barred with blackish; ends of the five first primaries nearly black; scapulars, barred broadly with white and brown; sides of the tail coverts, white, barred with ferruginous, middle ones dark, edged with rust; tail, rounded, extending two inches beyond the wings, and of a bright red brown, with a single band of black near the end, and tipped with brownish white; on some of the lateral feathers are slight indications of the remains of other narrow bars; lower parts, brownish white; the breast, ferruginous, streaked with dark brown; across the belly, a band of interrupted spots of brown; chin, white; femorals and vent, pale

brownish white, the former marked with a few minute heart-shaped spots of brown; legs, yellow, feathered half way below the knees.

This was a male. Another specimen, shot within a few days after, agreed, in almost every particular of its colour and markings, with the present; and, on dissection, was found to be a female.

21. *FALCO LEVERIANUS*, AMERICAN BUZZARD, OR WHITE-BREADED HAWK.*

WILSON, PLATE LII. FIG. 1.

It is with some doubt and hesitation that I introduce the present as a distinct species from the preceding. In their size and general aspect they resemble each other considerably; yet I have found both males and females among each; and in the present species I have sometimes found the ground colour of the tail strongly tinged with ferruginous, and the bars of dusky but slight; while in the preceding the tail is sometimes wholly red brown, the single bar of black near the tip excepted; in other specimens evident remains of numerous other bars are visible. In the meantime, both are described, and future observations may throw more light on the matter.

This bird is more numerous than the last; but frequents the same situations in winter. One, which was shot in the wing, lived with me several weeks; but refused to eat. It amused itself by frequently hopping from one end of the room to the other; and sitting for hours at the window, looking down on the passengers below. At first, when approached by any person, he generally put himself in a threatening position; but after some time he became quite familiar, permitting himself to be handled, and shutting

* This is the young of the preceding species.

his eyes, as if quite passive. Though he lived so long without food, he was found on dissection to be exceedingly fat, his stomach being enveloped in a mass of solid fat of nearly an inch in thickness.

The white-breasted hawk is twenty-two inches long, and four feet in extent; cere, pale green; bill, pale blue, black at the point; eye, bright straw colour; eyebrow, projecting greatly; head, broad, flat, and large; upper part of the head, sides of the neck and back, brown, streaked and seamed with white and some pale rust; scapulars and wing-coverts spotted with white; wing quills much resembling the preceding species; tail coverts, white, handsomely barred with brown; tail, slightly rounded, of a pale brown colour, varying in some to a sorrel, crossed by nine or ten bars of black, and tipped for half an inch with white; wings, brown, barred with dusky; inner vanes nearly all white; chin, throat, and breast, pure white, with the exception of some slight touches of brown that enclose the chin; femorals, yellowish white, thinly marked with minute touches of rust; legs, bright yellow, feathered half way down; belly, broadly spotted with black or very deep brown; the tips of the wings reach to the middle of the tail.

My reasons for inclining to consider this a distinct species from the last, is that of having uniformly found the present two or three inches larger than the former, though this may possibly be owing to their greater age.

SUBGENUS IX. — *CIRCUS*, BECHSTEIN.

22. *FALCO HYEMALIS*, WILSON. — WINTER FALCON.

WILSON, PL. XXXV. FIG. I. — ADULT MALE.

THIS elegant and spirited hawk visits us from the north early in November, and leaves us late in March.

He is a dexterous frog catcher; and, that he may pursue his profession with full effect, takes up his winter residence almost entirely among our meadows and marshes. He sometimes stuffs himself so enormously with these reptiles, that the prominency of his craw makes a large bunch, and he appears to fly with difficulty. I have taken the broken fragments, and whole carcasses of ten frogs, of different dimensions, from the crop of a single individual. Of his genius and other exploits, I am unable to say much. He appears to be a fearless and active bird, silent, and not very shy. One which I kept for some time, and which was slightly wounded, disdained all attempts made to reconcile him to confinement; and would not suffer a person to approach without being highly irritated, throwing himself backward, and striking, with expanded talons, with great fury. Though shorter winged than some of his tribe, yet I have no doubt, but, with proper care, he might be trained to strike nobler game, in a bold style, and with great effect. But the education of hawks in this country may well be postponed for a time, until fewer improvements remain to be made in that of the human subject.

Length of the winter hawk twenty inches; extent forty-one inches, or nearly three feet six inches; cere and legs, yellow, the latter long, and feathered for an inch below the knee; bill, bluish black, small, furnished with a tooth in the upper mandible; eye, bright amber, cartilage over the eye, very prominent, and of a dull green; head, sides of the neck, and throat, dark brown, streaked with white; lesser coverts with a strong glow of ferruginous; secondaries, pale brown, indistinctly barred with darker; primaries, brownish orange, spotted with black, wholly black at the tips; tail, long, slightly rounded, barred alternately with dark and pale brown; inner vanes, white, exterior feathers, brownish orange; wings, when closed, reach rather beyond the middle of the tail; tail coverts, white, marked with heart-shaped spots of brown, breast and belly, white, with numerous long drops of brown, the shafts blackish;

femoral feathers, large, pale yellow ochre, marked with numerous minute streaks of pale brown; claws, black. The legs of this bird are represented by different authors as slender; but I saw no appearance of this in those I examined.

The female is considerably darker above, and about two inches longer.

• 23. *FALCO LINEATUS*, WILSON.* — RED-SHOULDERED HAWK.

WILSON, PLATE LIII. FIG. III.

THIS species is more rarely met with than either of the former. Its haunts are in the neighbourhood of the sea. It preys on larks, sandpipers, and the small ringed plover, and frequently on ducks. It flies high and irregularly, and not in the sailing manner of the long-winged hawks. I have occasionally observed this bird near Egg Harbour, in New Jersey, and once in the meadows below this city. This hawk was first transmitted to Great Britain by Mr Blackburne, from Long Island, in the state of New York. With its manner of building, eggs, &c. we are altogether unacquainted.

The red-shouldered hawk is nineteen inches long; the head and back are brown, scamed and edged with rusty; bill, blue black; cere and legs, yellow; greater wing-coverts and secondaries, pale olive brown, thickly spotted on both vanes with white and pale rusty; primaries, very dark, nearly black, and barred or spotted with white; tail, rounded, reaching about an inch and a half beyond the wings, black, crossed by five bands of white, and broadly tipped with the same; whole breast and belly, bright rusty, speckled and spotted with transverse rows of white, the shafts black; chin and cheeks, pale brownish, streaked also with black; iris, reddish hazel; vent, pale ochre, tipped with rusty; legs, feathered a little below the

* This appears to be the young male of the winter falcon.

knees, long; these and the feet, a fine yellow; claws, black; femorals, pale rusty, faintly barred with a darker tint.

In the month of April I shot a female of this species, and the only one I have yet met with, in a swamp, seven or eight miles below Philadelphia. The eggs were, some of them, nearly as large as peas, from which circumstance, I think it probable, they breed in such solitary parts even in this state. In colour, size, and markings, it differed very little from the male described above. The tail was scarcely quite so black, and the white bars not so pure; it was also something larger.

24. *FALCO ULIGINOSUS*, WILSON.—*FALCO CYANEUS*, LINNÆUS.

MARSH HAWK.

WILSON, PLATE LI. FIG. I.—YOUNG FEMALE.

A DRAWING of this hawk was transmitted to Mr Edwards, more than fifty years ago, by Mr William Bartram, and engraved in Plate 291 of *Edwards's Ornithology*. At that time, and I believe till now, it has been considered as a species peculiar to this country.

I have examined various individuals of this hawk, both in summer and in the depth of winter, and find them to correspond so nearly with the ring-tail of Europe, that I have no doubt of their being the same species.

This hawk is most numerous where there are extensive meadows and salt marshes, over which it sails very low, making frequent circuitous sweeps over the same ground, in search of a species of mouse, very abundant in such situations. It occasionally flaps the wings, but is most commonly seen sailing about within a few feet of the surface. They are usually known by the name of the mouse-hawk along the sea-coast of New Jersey, where

they are very common. Several were also brought me last winter from the meadows below Philadelphia. Having never seen its nest, I am unable to describe it from my own observation. It is said, by European writers, to build on the ground, or on low limbs of trees. Mr Pennant observes, that it sometimes changes to a rust-coloured variety, except on the rump and tail. It is found, as was to be expected, at Hudson's Bay, being native in both this latitude and that of Britain. We are also informed that it is common in the open and temperate parts of Russia and Siberia; and extends as far as Lake Baikal, though it is said not to be found in the north of Europe.*

The marsh hawk is twenty-one inches long, and three feet eleven inches in extent; cere and legs, yellow, the former tinged with green, the latter long and slender; nostril, large, triangular; this and the base of the bill, thickly covered with strong curving hairs, that rise from the space between the eye and bill, arching over the base of the bill and cere; this is a particular characteristic; bill, blue, black at the end; eye, dark hazel; cartilage overhanging the eye, and also the eyelid, bluish green; spot under the eye, and line from the front over it, brownish white; head above and back, dark glossy chocolate brown, the former slightly seamed with bright ferruginous; scapulars, spotted with the same *under the surface*; lesser coverts and band of the wing, here and there edged with the same; greater coverts and primaries, tipped with whitish; quills deep brown at the extreme half, some of the outer ones hoary on the exterior edge; all the primaries, yellowish white on the inner vanes and upper half, also barred on the inner vanes with black; tail, long, extending three inches beyond the wings, rounded at the end, and of a pale sorrel colour, crossed by four broad bars of very dark brown, the two middle feathers excepted, which are barred with deep and lighter shades of chocolate brown; chin, pale ferruginous; round the neck, a collar of bright rust colour;

* Pallas, as quoted by Pennant.

breast, belly, and vent, pale rust, shafted with brown; femorals, long, tapering, and of the same pale rust tint; legs, feathered near an inch below the knee. This was a female. The male differs chiefly in being rather lighter, and somewhat less.

This hawk is particularly serviceable to the rice fields of the southern states, by the havoc it makes among the clouds of rice buntings that spread such devastation among that grain, in its early stage. As it sails low, and swiftly, over the surface of the field, it keeps the flocks in perpetual fluctuation, and greatly interrupts their depredations. The planters consider one marsh hawk to be equal to several negroes for alarming the rice-birds. Formerly the marsh hawk used to be numerous along the Schuylkill and Delaware, during the time the reeds were ripening, and the reed-birds abundant; but they have of late years become less numerous here.

Mr Pennant considers the "*strong, thick, and short legs*" of this species, as specific distinctions from the ring-tailed hawk; the legs, however, are *long* and *slender*; and a marsh hawk such as he has described, with strong, thick, and short legs, is no where to be found in the United States.

GENUS III.—*STRIX*, LINNÆUS.

SUBGENUS I.—*SURNIA*, DUMERIL.

25. *STRIX HUDSONIA*, WILSON.—HAWK OWL.

WILSON, PLATE L. FIG. VI.—EDINBURGH COLLEGE MUSEUM.

THIS is an inhabitant of both continents, a kind of equivocal species, or rather a connecting link between the hawk and owl tribes, resembling the latter in the feet, and in the radiating feathers round the eye and bill; but

approaching nearer to the former in the smallness of its head, narrowness of its face, and in its length of tail. In short, it seems just such a figure as one would expect to see generated between a hawk and an owl of the same size, were it possible for them to produce; and yet is as distinct, independent, and original a species as any other. It has also another strong trait of the hawk tribe,—in flying and preying by day, contrary to the general habit of owls. It is characterized as a bold and active species, following the fowler, and carrying off his game as soon as it is shot. It is said to prey on partridges and other birds; and is very common at Hudson's Bay, where it is called by the Indians *coparacoch*.* We are also informed that this same species inhabits Denmark and Sweden, is frequent in all Siberia, and on the west side of the Uralian chain as far as Casan and the Volga; but not in Russia.† It was also seen by the navigators near Sandwich Sound, in lat. 61 deg. north.

This species is very rare in Pennsylvania, and the more southern parts of the United States. Its favourite range seems to be along the borders of the arctic regions, making occasional excursions southwardly when compelled by severity of weather, and consequent scarcity of food. I some time ago received a drawing of this bird, from the district of Maine, where it was considered rare: that, and another specimen which was shot in the neighbourhood of Philadelphia, are the only two that have come under my notice. These having luckily happened to be male and female, have enabled me to give a description of both. Of their nest, or manner of breeding, we have no account.

The male of this species is fifteen inches long; the bill, orange yellow, and almost hid among the feathers; plumage of the chin, curving up over the under mandible; eyes, bright orange; head, small; face, narrow, and with very little concavity; cheeks, white; crown and hind head, dusky black, thickly marked with round spots of white; sides of the neck, marked with a large

* Edwards.

† Pennant.

curving streak of brown black, with another a little behind it of a triangular form; back, scapulars, rump, and tail coverts, brown olive, thickly speckled with broad spots of white; the tail extends three inches beyond the tips of the wings, is of a brown olive colour, and crossed with six or seven narrow bars of white, rounded at the end, and also tipped with white; the breast and chin is marked with a large spot of brown olive; upper part of the breast, light; lower, and all the parts below, elegantly barred with dark brown and white; legs and feet, covered to and beyond the claws with long whitish plumage, slightly yellow, and barred with fine lines of olive; claws, horn colour. The weight of this bird was twelve ounces.

The female is much darker above; the quills are nearly black; and the upper part of the breast is blotched with deep blackish brown.

It is worthy of remark, that in all owls that fly by night, the exterior edges and sides of the wing quills are slightly recurved, and end in fine hairs or points; by means of which the bird is enabled to pass through the air with the greatest silence, a provision necessary for enabling it the better to surprise its prey. In the hawk owl now before us, which flies by day, and to whom this contrivance would be of no consequence, it is accordingly omitted, or at least is scarcely observable. So judicious, so wise, and perfectly applicable, are all the dispositions of the Creator.

26. *STRIX NYCTEA*, WILSON. — SNOW OWL.

WILSON, PLATE XXXII. FIG. 1. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS great northern hunter inhabits the coldest and most dreary regions of the northern hemisphere on both continents. The forlorn mountains of Greenland, covered with eternal ice and snows, where, for nearly

half the year, the silence of death and desolation might almost be expected to reign, furnish food and shelter to this hardy adventurer; whence he is only driven by the extreme severity of weather towards the sea shore. He is found in Lapland, Norway, and the country near Hudson's Bay, during the whole year; is said to be common in Siberia, and numerous in Kamtschatka. He is often seen in Canada and the northern districts of the United States; and sometimes extends his visits to the borders of Florida. Nature, ever provident, has so effectually secured this bird from the attacks of cold, that not even a point is left exposed. The bill is almost completely hid among a mass of feathers that cover the face; the legs are clothed with such an exuberance of long, thick, hair-like plumage, as to appear nearly as large as those of a middle-sized dog, nothing being visible but the claws, which are large, black, much hooked, and extremely sharp. The whole plumage below the surface is of the most exquisitely soft, warm, and elastic kind, and so closely matted together as to make it a difficult matter to penetrate to the skin.

The usual food of this species is said to be hares, grouse, rabbits, ducks, mice, and even carrion. Unlike most of his tribe, he hunts by day as well as by twilight, and is particularly fond of frequenting the shores and banks of shallow rivers, over the surface of which he slowly sails, or sits on a rock a little raised above the water, watching for fish. These he seizes with a sudden and instantaneous stroke of the foot, seldom missing his aim. In the more southern and thickly settled parts he is seldom seen; and when he appears, his size, colour, and singular aspect, attract general notice.

In the month of October, I met with this bird on Oswego River, New York state, a little below the Falls, vigilantly watching for fish. At Pittsburg, in the month of February, I saw another, which had been shot in the wing some time before. At a place on the Ohio, called Long Reach, I examined another, which was the first ever recollected to have been seen there.

In the town of Cincinnati, state of Ohio, two of these birds alighted on the roof of the court house, and alarmed the whole town. A people more disposed to superstition, would have deduced some dire or fortunate prognostication from their selecting such a place; but the only solicitude was how to get possession of them, which, after several volleys, was at length effected. One of these, a female, I afterwards examined, when on my way through that place to New Orleans. Near Bairdstown, in Kentucky, I met with a large and very beautiful one, which appeared to be altogether unknown to the inhabitants of that quarter, and excited general surprise. A person living on the eastern shore of Maryland, shot one of these birds a few months ago, a female; and, having stuffed the skin, brought it to Philadelphia, to Mr Peale, in expectation, no doubt, of a great reward. I have examined eleven of these birds within these fifteen months last past, in different and very distant parts of the country, all of which were shot either during winter, late in the fall, or early in spring; so that it does not appear certain whether any remain during summer within the territory of the United States; though I think it highly probable that a few do, in some of the more northern inland parts, where they are most numerous during winter.

The colour of this bird is well suited for concealment, while roaming over the general waste of snows; and its flight strong and swift, very similar to that of some of our large hawks. Its hearing must be exquisite, if we judge from the largeness of these organs in it; and its voice is so dismal, that, as Pennant observes, it adds horror even to the regions of Greenland, by its hideous cries, resembling those of a man in deep distress.

The male of this species measures twenty-two inches and a half in length, and four feet six inches in breadth; head and neck, nearly white, with a few small dots of dull brown interspersed; eyes, deep sunk, under projecting eyebrows, the plumage at their internal angles, fluted, or prent in, to admit direct vision; below this it bristles up, covering nearly the whole bill; the irides

are of the most brilliant golden yellow, and the countenance, from the proportionate smallness of the head, projection of the eyebrow, and concavity of the plumage at the angle of the eye, very different from that of any other of the genus; general colour of the body, white, marked with lunated spots of pale brown above, and with semicircular dashes below; femoral feathers, long, and legs covered, even over the claws, with long shaggy hair-like down, of a dirty white; the claws, when exposed, appear large, much hooked, of a black colour, and extremely sharp pointed; back, white; tail, rounded at the end, white, slightly dotted with pale brown near the tips; wings, when closed, reach near the extremity of the tail; vent feathers, large, strong shafted, and extending also to the point of the tail; upper part of the breast and belly, plain white; body, very broad and flat.

The female, which measures two feet in length, and five feet two inches in extent, is covered more thickly with spots of a much darker colour than those on the male; the chin, throat, face, belly, and vent, are white; femoral feathers white, long, and shaggy, marked with a few heart-shaped spots of brown; legs also covered to the claws with long white hairy down; rest of the plumage white, every feather spotted or barred with dark brown, largest on the wing quills, where they are about two inches apart; fore part of the crown, thickly marked with roundish black spots; tail, crossed with bands of broad brownish spots; shafts of all the plumage, white; bill and claws, as in the male, black; third and fourth wing quill the longest; span of the foot, four inches.

From the various individuals of these birds which I have examined, I have reason to believe that the male alone approaches nearly to white in his plumage, the female rarely or never. The conformation of the eye of this bird forms a curious and interesting subject to the young anatomist. The globe of the eye is immoveably fixed in its socket, by a strong elastic hard cartilaginous case, in form of a truncated cone; this

case being closely covered with a skin, appears at first to be of one continued piece; but, on removing the exterior membrane, it is found to be formed of fifteen pieces, placed like the staves of a cask, overlapping a little at the base, or narrow end, and seem as if capable of being enlarged or contracted, perhaps by the muscular membrane with which they are encased. In five other different species of owls, which I have examined, I found nearly the same conformation of this organ, and exactly the same number of staves. The eye being thus fixed, these birds, as they view different objects, are always obliged to turn the head; and nature has so excellently adapted their neck to this purpose, that they can, with ease, turn it round, without moving the body, in almost a complete circle.

27. *STRIX NÆVIA*, WILSON. — MOTTLED OWL.

WILSON, PLATE XIX. FIG. I.—ADULT.

ON contemplating the grave and antiquated figure of this *night wanderer*, so destitute of every thing like gracefulness of shape, I can scarcely refrain from smiling at the conceit, of the ludicrous appearance this bird must have made, had nature bestowed on it the powers of song, and given it the faculty of warbling out sprightly airs, while robed in such a solemn exterior. But the great God of Nature hath, in his wisdom, assigned to this class of birds a more unsocial, and less noble, though, perhaps, not less useful, disposition, by assimilating them, not only in form of countenance, but in voice, manners, and appetite, to some particular beasts of prey; secluding them from the enjoyment of the gay sunshine of day, and giving them little more than the few solitary hours of morning and evening twilight, to procure their food and pursue their amours; while all the tuneful tribes, a few excepted, are wrapt

in silence and repose. That their true character, however, should not be concealed from those weaker animals on whom they feed, (for heaven abhors deceit and hypocrisy,) He has stamped their countenance with strong traits of their murderer the cat; and birds in this respect are, perhaps, better physiognomists than men.

The owl now before us is chiefly a native of the northern regions, arriving here, with several others, about the commencement of cold weather; frequenting the uplands and mountainous districts, in preference to the lower parts of the country; and feeding on mice, small birds, beetles, and crickets. It is rather a scarce species in Pennsylvania; flies usually in the early part of night and morning; and is sometimes observed sitting on the fences during day, when it is easily caught; its vision at that time being very imperfect.

The bird which I am about to describe, was taken in this situation, and presented to me by a friend. I kept it in the room beside me for some time, during which its usual position was such as I have given it. Its eyelids were either half shut, or slowly and alternately opening and shutting, as if suffering from the glare of day; but no sooner was the sun set, than its whole appearance became lively and animated; its full and globular eyes shone like those of a cat; and it often lowered its head, in the manner of a cock when preparing to fight, moving it from side to side, and also vertically, as if reconnoitring you with great sharpness. In flying through the room, it shifted from place to place with the silence of a spirit, (if I may be allowed the expression,) the plumage of its wings being so

- extremely fine and soft as to occasion little or no friction with the air,—a wise provision of nature, bestowed on the whole genus, to enable them, without giving alarm, to seize their prey in the night. For an hour or two in the evening, and about break of day, it flew about with great activity. When angry, it snapped its bill repeatedly with violence, and so loud as to be heard in the adjoining room, swelling out its eyes to their full dimen-

sions, and lowering its head as before described. It swallowed its food hastily, in large mouthfuls; and never was observed to drink. Of the eggs and nest of this species, I am unable to speak.

The mottled owl is ten inches long, and twenty-two in extent; the upper part of the head, the back, ears, and lesser wing-coverts, are dark brown, streaked and variegated with black, pale brown, and ash; wings, lighter, the greater coverts and primaries spotted with white; tail, short, even, and mottled with black, pale brown, and whitish, on a dark brown ground; its lower side, gray; horns, (as they are usually called,) very prominent, each composed of ten feathers, increasing in length from the front backwards, and lightest on the inside; face, whitish, marked with small touches of dusky, and bounded on each side with a circlet of black; breast and belly, white, beautifully variegated with ragged streaks of black, and small transverse touches of brown; legs, feathered nearly to the claws, with a kind of hairy down, of a pale brown colour; vent and under tail-coverts, white, the latter slightly marked with brown; iris of the eye, a brilliant golden yellow; bill and claws, bluish horn colour.

This was a female. The male is considerably less in size; the general colours darker; and the white on the wing-coverts not so observable.

Hollow trees, either in the woods or orchard, or close evergreens in retired situations, are the usual roosting places of this and most of our other species. These retreats, however, are frequently discovered by the nuthatch, titmouse, or blue jay, who instantly raise the alarm; a promiscuous group of feathered neighbours soon collect round the spot, like crowds in the streets of a large city, when a thief or murderer is detected; and, by their insults and vociferation, oblige the recluse to seek for another lodging elsewhere. This may account for the circumstance of sometimes finding them abroad during the day, on fences and other exposed situations.

28. *STRIX ASIO*, WILSON. — RED OWL.

WILSON, PLATE XLII. FIG. I. *

This is another of our nocturnal wanderers, well known by its common name, the *Little Screech Owl*; and noted for its melancholy quivering kind of wailing in the evenings, particularly towards the latter part of summer and autumn, near the farm house. On clear moonlight nights, they answer each other from various parts of the fields or orchard; roost during the day in thick evergreens, such as cedar, pine, or juniper trees, and are rarely seen abroad in sunshine. In May, they construct their nest in the hollow of a tree, often in the orchard in an old apple tree; the nest is composed of some hay and a few feathers; the eggs are four, pure white, and nearly round. The young are at first covered with a whitish down.

This specimen I kept for several weeks in the room beside me. It was caught in a barn, where it had taken up its lodging, probably for the greater convenience of mousing; and being unhurt, I had an opportunity of remarking its manners. At first, it struck itself so forcibly against the window, as frequently to deprive it, seemingly, of all sensation for several minutes: this was done so repeatedly, that I began to fear that either the glass or the owl's skull must give way. In a few days, however, it either began to comprehend something of the matter, or to take disgust at the glass, for it never repeated its attempts; and soon became quite tame and familiar. Those who have seen this bird only in the day, can form but an imperfect idea of its activity, and even sprightliness, in its proper season of exercise. Throughout the day, it was all stillness and gravity; its eyelids half shut, its neck contracted, and its head shrunk seemingly into its body; but scarcely was the sun set, and twilight began to approach, when its eyes became full and sparkling, like two living globes of fire;

* This appears to be the young of the mottled owl.

it crouched on its perch, reconnoitred every object around with looks of eager fierceness; alighted and fed; stood on the meat with clenched talons, while it tore it in morsels with its bill; flew round the room with the silence of thought, and perching, moaned out its melancholy notes with many lively gesticulations, not at all accordant with the pitiful tone of its ditty, which reminded one of the shivering moanings of a half frozen puppy.

This species is found generally over the United States, and is not migratory.

The red owl is eight inches and a half long, and twenty-one inches in extent; general colour of the plumage above, a bright nut brown, or tawny red; the shafts, black; exterior edges of the outer row of scapulars, white; bastard wing, the five first primaries, and three or four of the first greater coverts, also spotted with white; whole wing quills, spotted with dusky on their exterior webs; tail, rounded, transversely barred with dusky and pale brown; chin, breast, and sides, bright reddish brown, streaked laterally with black, intermixed with white; belly and vent, white, spotted with bright brown; legs, covered to the claws with pale brown hairy down; extremities of the toes and claws, pale bluish, ending in black; bill, a pale bluish horn colour; eyes, vivid yellow; inner angles of the eyes, eyebrows, and space surrounding the bill, whitish: rest of the face nut brown; head, horned or eared, each consisting of nine or ten feathers of a tawny red, shafted with black.

SUBGENUS II. — *ULULA*, CUVIER.

29. *STRIX VIRGINIANA*, WILSON. — GREAT HORNED OWL.

WILSON, PL. I. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

THIS noted and formidable owl is found in almost every quarter of the United States. His favourite residence, however, is in the dark solitudes of deep swamps, covered with a growth of gigantic timber; and

here, as soon as evening draws on, and mankind retire to rest, he sends forth such sounds as seem scarcely to belong to this world, startling the solitary pilgrim as he slumbers by his forest fire,

“ Making night hideous.”

Along the mountainous shores of the Ohio, and amidst the deep forests of Indiana, alone, and reposing in the woods, this ghostly watchman has frequently warned me of the approach of morning, and amused me with his singular exclamations, sometimes sweeping down and around my fire, uttering a loud and sudden *Waugh O ! Waugh O !* sufficient to have alarmed a whole garrison. He has other nocturnal solos, no less melodious, one of which very strikingly resembles the half suppressed screams of a person suffocating, or throttled, and cannot fail of being exceedingly entertaining to a lonely benighted traveller, in the midst of an Indian wilderness!

This species inhabits the country round Hudson's Bay; and, according to Pennant, who considers it a mere variety of the eagle owl (*strix bubo*) of Europe, is found in Kamtschatka; extends even to the arctic regions, where it is often found white; and occurs as low as Astrakan. It has also been seen white in the United States; but this has doubtless been owing to disease or natural defect, and not to climate. It preys on young rabbits, squirrels, rats, mice, partridges, and small birds of various kinds. It has been often known to prowl about the farm house, and carry off chickens from roost. A very large one, wing-broken while on a foraging excursion of this kind, was kept about the house for several days, and at length disappeared, no one knew how. Almost every day after this, hens and chickens also disappeared, one by one, in an unaccountable manner, till, in eight or ten days, very few were left remaining. The fox, the minx, and weasel, were alternately the reputed authors of this mischief, until one morning, the old lady herself, rising before day to bake, in passing towards the oven, surprised her late prisoner, the owl, regaling himself on the body of a newly killed

hen ! The thief instantly made for his hole, under the house, from whence the enraged matron soon dislodged him, with the brush handle, and without mercy despatched him. In this snug retreat, were found the greater part of the feathers, and many large fragments of her whole family of chickens.

There is something in the character of the owl so recluse, solitary, and mysterious, something so discordant in the tones of its voice, heard only amid the silence and gloom of night, and in the most lonely and sequestered situations, as to have strongly impressed the minds of mankind in general with sensations of awe and abhorrence of the whole tribe. The poets have indulged freely in this general prejudice ; and in their descriptions and delineations of midnight storms, and gloomy scenes of nature, the owl is generally introduced to heighten the horror of the picture. Ignorance and superstition, in all ages, and in all countries, listen to the voice of the owl, and even contemplate its physiognomy, with feelings of disgust, and a kind of fearful awe. The priests, or conjurers, among some of our Indian nations, have taken advantage of the reverential horror for this bird, and have adopted the *great horned owl*, the subject of the present account, as the symbol or emblem of their office. " Among the Creeks," says Mr Bartram, in his *Travels*, p. 504, " the junior priests, or students, constantly wear a white mantle, and have a great owl-skin cased and stuffed very ingeniously, so well executed as almost to appear like the living bird, having large sparkling glass beads, or buttons, fixed in the head for eyes. This insignia of wisdom and divination they wear sometimes as a crest on the top of the head ; at other times the image sits on the arm, or is borne on the hand. These bachelors are also distinguished from the other people by their taciturnity, grave and solemn countenance, dignified step, and singing to themselves songs or hymns in a low, sweet voice, as they stroll about the town."

Nothing is a more effectual cure for superstition than a knowledge of the general laws and productions

of nature ; nor more forcibly leads our reflections to the first, great, self-existent CAUSE of all, to whom our reverential awe is then humbly devoted, and not to any of his dependant creatures. With all the gloomy habits and ungracious tones of the owl, there is nothing in this bird supernatural or mysterious, or more than that of a simple bird of prey, formed for feeding by night, like many other animals, and of reposing by day. The harshness of its voice, occasioned by the width and capacity of its throat, may be intended by Heaven as an alarm and warning to the birds and animals on which it preys to secure themselves from danger. The voices of all carnivorous birds and animals are also observed to be harsh and hideous, probably for this very purpose.

The great horned owl is not migratory, but remains with us the whole year. During the day he slumbers in the thick evergreens of deep swamps, or seeks shelter in large hollow trees. He is very rarely seen abroad by day, and never but when disturbed. In the month of May they usually begin to build. The nest is generally placed in the fork of a tall tree, and is constructed of sticks piled in considerable quantities, lined with dry leaves and a few feathers. Sometimes they choose a hollow tree ; and in that case carry in but few materials. The female lays four eggs, nearly as large as those of a hen, almost globular, and of a pure white. In one of these nests, after the young had flown, were found the heads and bones of two chickens, the legs and head of the golden-winged woodpecker, and part of the wings and feathers of several other birds. It is conjectured that they hatch but once in the season.

The length of the male of this species is twenty inches ; the bill is large, black, and strong, covered at the base with a cere ; the eyes, golden yellow ; the horns are three inches in length, and very broad, consisting of twelve or fourteen feathers, their webs black, broadly edged with bright tawny ; face, rusty, bounded on each side by a band of black ; space between the eyes and bill, whitish ; whole lower parts elegantly marked with numerous transverse bars of dusky on a

bright tawny ground, thinly interspersed with white; vent, pale yellow ochre, barred with narrow lines of brown; legs and feet large, and covered with feathers or hairy down of a pale brown colour; claws, very large, blue black; tail, rounded, extending about an inch beyond the tips of the wings, crossed with six or seven narrow bars of brown, and variegated or marbled with brown and tawny; whole upper parts finely pencilled with dusky, on a tawny and whitish ground; chin, pure white, under that a band of brown, succeeded by another narrow one of white; eyes, very large.

The female is full two feet in length, and has not the white on the throat so pure. She has also less of the bright ferruginous or tawny tint below; but is principally distinguished by her superior magnitude.

30. *STRIX OTUS*, WILSON. — LONG-EARED OWL.

WILSON, PL. LI. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

THIS owl is common to both continents, and is much more numerous in Pennsylvania than the white, or barn owl: six or seven were found in a single tree, about fifteen miles from Philadelphia. There is little doubt but this species is found inhabiting America to a high latitude; though we have no certain accounts of the fact. Except in size, this species has more resemblance to the great horned owl than any other of its tribe. It resembles it also in breeding among the branches of tall trees; lays four eggs, of nearly a round form, and pure white.* The young are greyish white until nearly full grown, and roost during the day close together on a limb, among the thickest of the foliage. This owl is frequently seen abroad during the day, but is not remarkable for its voice or habits.

The long-eared owl is fourteen inches and a half long, and three feet two inches in extent; ears, large, composed of six feathers, gradually lengthening from

* Buffon remarks, that it rarely constructs a nest of its own; but not unfrequently occupies that of others, particularly the magpie.

the front one backwards, black, edged with rusty yellow; irides, vivid yellow; inside of the circle of the face, white, outside or cheeks, rusty; at the internal angle of the eye, a streak of black; bill, blackish horn colour; forehead and crown, deep brown, speckled with minute points of white and pale rusty; outside circle of the face, black, finely marked with small curving spots of white; back and wings, dark brown, sprinkled and spotted with white, pale ferruginous and dusky; primaries, barred with brownish yellow and dusky, darkening towards the tips; secondaries, more finely barred and powdered with white and dusky; tail, rounded at the end, of the same length with the wings, beautifully barred and marbled with dull white and pale rusty, on a dark brown ground; throat and breast, clouded with rusty, cream, black and white; belly, beautifully streaked with large arrow-heads of black; legs and thighs, plain pale rusty, feathered to the claws, which are blue black, large, and sharp; inside of the wing, brownish yellow, with a large spot of black at the root of the primaries. This was a female. Of the male I cannot speak precisely; though, from the numbers of these birds which I have examined in the fall, when it is difficult to ascertain their sex, I conjecture that they differ very little in colour.

About six or seven miles below Philadelphia, and not far from the Delaware, is a low swamp, thickly covered with trees, and inundated during great part of the year. This place is the resort of great numbers of the qua-bird, or night raven (*ardea nycticorax*), where they build in large companies. On the 25th of April, while wading among the dark recesses of this place, observing the habits of these birds, I discovered a *long-eared owl*, which had taken possession of one of their nests, and was sitting; on mounting to the nest, I found it contained four eggs, and, breaking one of these, the young appeared almost ready to leave the shell. There were numbers of the qua-birds' nests on the adjoining trees all around, and one of them actually on the same tree. Thus we see how unvarying are the manners of

this species, however remote and different the countries may be where it has taken up its residence.

31. *STRIX BRACHYOTOS*, WILSON. — SHORT-EARED OWL.

WILSON, PLATE XXXIII. FIG. III. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS is another species common to both continents, being found in Britain as far north as the Orkney Isles, where it also breeds, building its nest upon the ground, amidst the heath; arrives and disappears in the south parts of England with the woodcock, that is, in October and April; consequently does not breed there. It is called at Hudson's Bay, the mouse hawk; and is described as not flying, like other owls, in search of prey, but sitting quiet, on a stump of a tree, watching for mice. It is said to be found in plenty in the woods near Chatteau Bay, on the coast of Labrador. In the United States, it is also a bird of passage, coming to us from the north in November, and departing in April. It has the stern aspect of a keen, vigorous, and active bird; and is reputed to be an excellent mouser. It flies frequently by day, particularly in dark, cloudy weather, takes short flights; and, when sitting and looking sharply around, erects the two slight feathers that constitute its horns, which are at such times very noticeable; but, otherwise, not perceivable. No person, on slightly examining this bird after being shot, would suspect it to be furnished with horns; nor are they discovered but by careful search, or previous observation on the living bird. Bewick, in his *History of British Birds*, remarks, that this species is sometimes seen in companies, — twenty-eight of them being once counted in a turnip field in November.

Length, fifteen inches; extent, three feet four inches; general colour above, dark brown, the feathers broadly skirted with pale yellowish brown; bill, large, black; irides, rich golden yellow, placed in a bed of deep black, which radiates outwards all around, except towards

the bill, where the plumage is whitish ; ears, bordered with a semicircular line of black and tawny yellow dots ; tail, rounded, longer than usual with owls, crossed with five bands of dark brown, and as many of yellow ochre,—some of the latter have central spots of dark brown,—the whole tipped with white ; quills also banded with dark brown and yellow ochre ; breast and belly streaked with dark brown, on a ground of yellowish ; legs, thighs, and vent, plain dull yellow ; tips of the three first quill feathers, black ; legs, clothed to the claws, which are black, curved to about the quarter of a circle, and exceedingly sharp.

The female I have never seen ; but she is said to be somewhat larger, and much darker ; and the spots on the breast larger, and more numerous.

32. *STRIX NEBULOSA*, LINNÆUS. — BARRED OWL.

WILSON, PL. XXVIII. FIG. II. — EDINBURGH COLLEGE MUSEUM.

THIS is one of our most common owls. In winter particularly, it is numerous in the lower parts of Pennsylvania, among the woods that border the extensive meadows of Schuylkill and Delaware. It is very frequently observed flying during day, and certainly sees more distinctly at that time than many of its genus. In one spring, at different times, I met with more than forty of them, generally flying, or sitting exposed. I also once met with one of their nests, containing three young, in the crotch of a white oak, among thick foliage. The nest was rudely put together, composed • outwardly of sticks, intermixed with some dry grass and leaves, and lined with smaller twigs. At another time, in passing through the woods, I perceived something white, on the high shaded branch of a tree, close to the trunk, that, as I thought, looked like a cat asleep. Unable to satisfy myself, I was induced to fire, when, to my surprise and regret, four young owls, of this same species, nearly full grown, came down headlong, and, fluttering for a few moments, died at my

feet. Their nest was probably not far distant. I have also seen the eggs of this species, which are nearly as large as those of a young pullet, but much more globular, and perfectly white.

These birds sometimes seize on fowls, partridges, and young rabbits; mice and small game are, however, their most usual food. The difference of size between the male and female of this owl is extraordinary, amounting sometimes to nearly eight inches in the length. Both scream during day, like a hawk.

The male barred owl measures sixteen inches and a half in length, and thirty-eight inches in extent; upper parts a pale brown, marked with transverse spots of white; wings, barred with alternate bands of pale brown, and darker; head, smooth, very large, mottled with transverse touches of dark brown, pale brown, and white; eyes, large, deep blue, the pupil not perceivable; face, or radiated circle of the eyes, grey, surrounded by an outline of brown and white dots; bill, yellow, tinged with green; breast, barred transversely with rows of brown and white; belly, streaked longitudinally with long stripes of brown, on a yellowish ground; vent, plain yellowish white; thighs and feathered legs, the same, slightly pointed with brown; toes, nearly covered with plumage; claws, dark horn colour, very sharp; tail, rounded, and remarkably concave below, barred with six broad bars of brown, and as many narrow ones of white; the back and shoulders have a cast of chestnut; at each internal angle of the eye, is a broad spot of black; the plumage of the radiated circle round the eye ends in long black hairs; and the bill is encompassed by others of a longer and more bristly kind. These probably serve to guard the eye when any danger approaches it in sweeping hastily through the woods; and those usually found on fly-catchers may have the same intention to fulfil; for, on the slightest touch of the point of any of these hairs, the nictitant membrane was instantly thrown over the eye.

The female is twenty-two inches long, and four feet in extent; the chief difference of colour consists in her

wings being broadly spotted with white; the shoulder being a plain chocolate brown; the tail extends considerably beyond the tips of the wings; the bill is much larger, and of a more golden yellow; iris of the eye, the same as that of the male.

The different character of the feathers of this, and, I believe, of most owls, is really surprising. Those that surround the bill differ little from bristles; those that surround the region of the eyes are exceeding open, and unwebbed; these are bounded by another set, generally proceeding from the external edge of the ear, of a most peculiar small, narrow, velvety kind, whose fibres are so exquisitely fine, as to be invisible to the naked eye; above, the plumage has one general character at the surface, calculated to repel rain and moisture; but, towards the roots, it is of the most soft, loose, and downy substance in nature,—so much so, that it may be touched without being felt; the webs of the wing quills are also of a delicate softness, covered with an almost imperceptible hair, and edged with a loose silky down, so that the owner passes through the air without interrupting the most profound silence. Who cannot perceive the hand of God in all these things!

33. *STRIX PASSERINA*, LINNÆUS. — LITTLE OWL.

STRIX ACADICA, GMELIN.

WILSON, PLATE XXXIV. FIG. 1.—EDINBURGH COLLEGE MUSEUM.

THIS is one of the least of its whole genus; but, like many other little folks, makes up, in neatness of general form and appearance, for deficiency of size, and is, perhaps, the most shapely of all our owls. Nor are the colours and markings of its plumage inferior in simplicity and effect to most others. It also possesses an eye fully equal in spirit and brilliancy to the best of them.

This species is a general and constant inhabitant of the middle and northern states; but is found most numerous in the neighbourhood of the sea shore, and among woods and swamps of pine trees. It rarely

rambles much during day; but, if disturbed, flies a short way, and again takes shelter from the light; at the approach of twilight it is all life and activity, being a noted and dexterous mouse-catcher. It is found as far north as Nova Scotia, and even Hudson's Bay; is frequent in Russia; builds its nest generally in pines, half way up the tree, and lays two eggs, which, like those of the rest of its genus, are white. The melancholy and gloomy umbrage of those solitary evergreens forms its favourite haunts, where it sits dozing and slumbering all day, lulled by the roar of the neighbouring ocean.

The little owl is seven inches and a half long, and eighteen inches in extent; the upper parts are a plain brown olive, the scapulars and some of the greater and lesser coverts being spotted with white; the first five primaries are crossed obliquely with five bars of white; tail, rounded, rather darker than the body, crossed with two rows of white spots, and tipped with white; whole interior vanes of the wings, spotted with the same; auriculars, yellowish brown; crown, upper part of the neck, and circle surrounding the ears, beautifully marked with numerous points of white on an olive brown ground; front, pure white, ending in long blackish hairs; at the internal angle of the eyes, a broad spot of black radiating outwards; irides, pale yellow; bill, a blackish horn colour; lower parts, streaked with yellow ochre and reddish bay; thighs, and feathered legs, pale buff; toes, covered to the claws, which are black, large, and sharp-pointed.

The bird, from which the foregoing description was taken, was shot on the sea shore, near Great Egg Harbour, in New Jersey, in the month of November, and, on dissection, was found to be a female. Turton describes a species called the white-fronted owl (*S. albifrons*), which, in every thing except the size, agrees with this bird, and has, very probably, been taken from a young male, which is sometimes found considerably less than the female.

SUBGENUS III. — *STRIX*, SAVIGNY.34. *STRIX FLAMMEA*, LINNÆUS.—WHITE, OR BARN OWL.

WILSON, PLATE I. FIG. II.—EDINBURGH COLLEGE MUSEUM.

THIS owl, though so common in Europe, is rare in this part of the United States, and is only found here during very severe winters. This may possibly be owing to the want of those favourite recesses in this part of the world, which it so much affects in the eastern continent. The multitudes of old ruined castles, towers, monasteries, and cathedrals, that everywhere rise to view in those countries, are the chosen haunts of this well-known species. Its savage cries at night give, with vulgar minds, a cast of supernatural horror to those venerable mouldering piles of antiquity. This species, being common to both continents, doubtless extends to the arctic regions. It also inhabits Tartary, where, according to Pennant, "the Monguls and natives almost pay it divine honours, because they attribute to this species the preservation of the founder of their empire, Gingham Khan. That prince, with his small army, happened to be surprised and put to flight by his enemies, and forced to conceal himself in a little coppice; an owl settled on the bush under which he was hid, and induced his pursuers not to search there, as they thought it impossible that any man could be concealed in a place where that bird would perch. From thenceforth they held it to be sacred, and every one wore a plume of the feathers of this species on his head. To this day the Kalmucs continue the custom on all great festivals; and some tribes have an idol in form of an owl, to which they fasten the real legs of one."*

This species is rarely found in Pennsylvania in summer. Of its place and manner of building, I am unable, from my own observation, to speak. The bird itself has been several times found in the hollow of a tree,

* *Arctic Zoology*, p. 235.

and was once caught in a barn in my neighbourhood. European writers inform us, that it makes no nest, but deposits its eggs in the holes of walls, and lays five or six, of a whitish colour; is said to feed on mice and small birds, which, like the most of its tribe, it swallows whole, and afterwards emits the bones, feathers, and other indigestible parts, at its mouth, in the form of small round cakes, which are often found in the empty buildings it frequents. During its repose it is said to make a blowing noise resembling the snoring of a man.*

It is distinguished in England by various names, the barn owl, the church owl, gillihowlet, and screech owl. In the lowlands of Scotland it is universally called the hoolet.

The white or barn owl is fourteen inches long, and upwards of three feet six inches in extent; bill, a whitish horn colour, longer than is usual among its tribe; space surrounding each eye remarkably concave, the radiating feathers meeting in a high projecting ridge, arching from the bill upwards; between these lies a thick tuft of bright tawny feathers, that are scarcely seen, unless the ridges be separated; face, white, surrounded by a border of narrow thickset velvety feathers, of a reddish cream colour at the tip, pure silvery white below, and finely shafted with black; whole upper parts, a bright tawny yellow, thickly sprinkled with whitish and pale purple, and beautifully interspersed with larger drops of white, each feather of the back and wing-coverts ending in an oblong spot of white bounded by black; head, large, tumid; sides of the neck, pale yellow ochre, thinly sprinkled with small touches of dusky; primaries and secondaries the same thinly barred, and thickly sprinkled with dull purplish brown; tail, two inches shorter than the tips of the wings, even, or very slightly forked, pale yellowish crossed with five bars of brown, and thickly dotted with the same; whole lower parts, pure white, thinly interspersed with small round spots of blackish; thighs, the

* Bewick, I, p. 20.

same ; legs, long, thinly covered with short white down nearly to the feet, which are of a dirty white, and thickly warted ; toes, thinly clad with white hairs ; legs and feet, large and clumsy ; the ridge, or shoulder of the wing is tinged with bright orange brown. The aged bird is more white ; in some, the spots of black on the breast are wanting, and the colour below, a pale yellow ; in others, a pure white.

The female measures fifteen inches and a half in length, and three feet eight inches in extent ; is much darker above ; the lower parts tinged with tawny, and marked also with round spots of black. One of these was lately sent me, which was shot on the border of the meadows below Philadelphia. Its stomach contained the mangled carcasses of four large meadow mice, hair, bones, and all. The common practice of most owls is, after breaking the bones, to swallow the mouse entire ; the bones, hair, and other indigestible parts, are afterwards discharged from the mouth in large roundish dry balls, that are frequently met with in such places as these birds usually haunt.

As the meadow mouse is so eagerly sought after by those birds, and also by great numbers of hawks, which regularly, at the commencement of winter, resort to the meadows below Philadelphia, and to the marshes along the sea shore, for the purpose of feeding on these little animals, some account of them may not be improper in this place. The species appears not to have been taken notice of by Turton in the latest edition of his translation of Linnaeus. From the nose to the insertion of the tail it measures four inches ; the tail is between three quarters and an inch long, hairy, and usually curves upwards ; the fore feet are short, five-toed, the inner toe very short, but furnished with a claw ; hind feet also five-toed ; the ears are shorter than the fur, through which, though large, they are scarcely noticeable ; the nose is blunt ; the colour of the back is dark brown, that of the belly, hoary ; the fur is long and extremely fine ; the hind feet are placed very far back, and are also short ; the eyes exceeding small. This mischievous

creature is a great pest to the meadows, burrowing in them in every direction; but is particularly injurious to the embankments raised along the river, perforating them in numerous directions, and admitting the water, which afterwards effects dangerous breaches, inundating large extents of these low grounds,—and thus they become the instruments of their own destruction. In their general figure they bear great resemblance to the common musk rat, and, like them, swim and dive well. They feed on the bulbous roots of plants, and also on garlic, of which they are remarkably fond.

Another favourite prey of most of our owls is a species of bat, which also appears to be a nondescript. The length of this bat, from the nose to the tip of the tail, is four inches; the tail itself is as long as the body, but generally curls up inwards; the general colour is a bright iron gray, the fur being of a reddish cream at bottom, then strongly tinged with lake, and minutely tipped with white; the ears are scarcely half an inch long, with two slight valves; the nostrils are somewhat tubular; fore teeth, in the upper jaw none, in the lower four, not reckoning the tusks; the eyes are very small black points; the chin, upper part of the breast and head, are of a pale reddish cream colour; the wings have a single hook, or claw each, and are so constructed, that the animal may hang either with its head or tail downward. I have several times found two hanging fast locked together behind a leaf, the hook of one fixed in the mouth of the other; the hind feet are furnished with five toes, sharp-clawed; the membrane of the wings is dusky, shafts, light brown; extent, twelve inches. In a cave, not far from Carlisle, in Pennsylvania, I found a number of these bats in the depth of winter, in very severe weather: they were lying on the projecting shelves of the rocks, and, when the brand of fire was held near them, wrinkled up their mouths, shewing their teeth; when held in the hand for a short time, they became active, and, after being carried into a stove room, flew about as lively as ever.

ORDER II.

PASSERES, LINNÆUS.

TRIBE I.
SCANSORES, ILLIGER.

FAMILY III.
PSITTACINÆ, ILLIGER.

GENUS IV. — *PSITTACUS*, LINNÆUS.

SUBGENUS — *PSITTACUS*, VIEILL.

35. *PSITTACUS CAROLINENSIS*, WIL. — CAROLINA PARROT.

WILSON, PLATE XXVI. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

OF one hundred and sixty-eight kinds of parrots, enumerated by European writers as inhabiting the various regions of the globe, this is the only species found native within the territory of the United States. The vast and luxuriant tracts lying within the torrid zone, seem to be the favourite residence of those noisy, numerous, and richly plumaged tribes. The Count de Buffon has, indeed, circumscribed the whole genus of parrots to a space not extending more than twenty-three degrees on each side of the equator: but later discoveries have shewn this statement to be incorrect, as these birds have been found on our continent as far south as the Straits of Magellan, and even on the remote shores of Van Diemen's Land, in Terra Australasia. The species now under consideration is also known to inhabit the interior of Louisiana, and the shores of Mississippi and Ohio, and their tributary waters, even beyond the Illinois river, to the neighbourhood of Lake Michigan, in lat. 42 deg. north; and, contrary to the generally received opinion, is chiefly *resident* in all

these places. Eastward, however, of the great range of the Alleghany, it is seldom seen farther north than the state of Maryland; though straggling parties have been occasionally observed among the valleys of the Juniata; and, according to some, even twenty-five miles to the north-west of Albany, in the state of New York.* But such accidental visits furnish no certain criteria, by which to judge of their usual extent of range; those aerial voyagers, as well as others who navigate the deep, being subject to be cast away, by the violence of the elements, on distant shores and unknown countries.

From these circumstances of the northern residence of this species, we might be justified in concluding it to be a very hardy bird, more capable of sustaining cold than nine-tenths of its tribe; and so I believe it is; having myself seen them, in the month of February, along the banks of the Ohio, in a snow-storm, flying about like pigeons, and in full cry.

The preference, however, which this bird gives to the western countries, lying in the same parallel of latitude with those eastward of the Alleghany mountains, which it rarely or never visits, is worthy of remark; and has been adduced, by different writers, as a proof of the superior mildness of climate in the former to that of the latter. But there are other reasons for this partiality equally powerful, though hitherto overlooked; namely, certain peculiar features of country to which these birds are particularly and strongly attached: these are, low rich alluvial bottoms, along the borders of creeks, covered with a gigantic growth of sycamore trees, or button-wood; deep, and almost impenetrable swamps, where the vast and towering cypress lift their still more majestic heads; and those singular salines, or, as they are usually called, *licks*, so generally interspersed over that country, and which are regularly and eagerly visited by the paroquets. A still greater inducement is the superior abundance of their favourite

* BARTON'S *Fragments*, &c. p. 6, Introduction.

fruits. That food which the paroquet prefers to all others is the seeds of the cockle bur, a plant rarely found in the lower parts of Pennsylvania or New York; but which unfortunately grows in too great abundance along the shores of the Ohio and Mississippi, so much so as to render the wool of those sheep that pasture where it most abounds, scarcely worth the cleaning, covering them with one solid mass of burs, wrought up and imbedded into the fleece, to the great annoyance of this valuable animal. The seeds of the cypress tree and hackberry, as well as beech nuts, are also great favourites with these birds; the two former of which are not commonly found in Pennsylvania, and the latter by no means so general or so productive. Here, then, are several powerful reasons, more dependent on soil than climate, for the preference given by these birds to the luxuriant regions of the west. Pennsylvania, indeed, and also Maryland, abound with excellent apple orchards, on the ripe fruit of which the paroquets occasionally feed. But I have my doubts whether their depredations in the orchard be not as much the result of wanton play and mischief, as regard for the seeds of the fruit, which they are supposed to be in pursuit of. I have known a flock of these birds alight on an apple tree, and have myself seen them twist off the fruit, one by one, strewing it in every direction around the tree, without observing that any of the depredators descended to pick them up. To a paroquet, which I wounded and kept for some considerable time, I very often offered apples, which it uniformly rejected; but burs, or beech nuts, never. To another very beautiful one, which I brought from New Orleans, and which is now sitting in the room beside me, I have frequently offered this fruit, and also the seeds separately, which I never knew it to taste. Their local attachments, also, prove that food, more than climate, determines their choice of country. For even in the states of Ohio, Kentucky, and the Mississippi territory, unless in the neighbourhood of such places as have been described, it is rare to see them. The inhabitants of Lexington, as many of them

assured me, scarcely ever observe them in that quarter. In passing from that place to Nashville, a distance of two hundred miles, I neither heard nor saw any, but at a place called Madison's lick. In passing on, I next met with them on the banks and rich flats of the Tennessee river: after this, I saw no more till I reached Bayo St Pierre, a distance of several hundred miles: from all which circumstances, I think we cannot, from the residence of these birds, establish with propriety any correct standard by which to judge of the comparative temperatures of different climates.

In descending the river Ohio, by myself, in the month of February, I met with the first flock of paroquets, at the mouth of the Little Sioto. I had been informed, by an old and respectable inhabitant of Marietta, that they were sometimes, though rarely, seen there. I observed flocks of them, afterwards, at the mouth of the Great and Little Miami, and in the neighbourhood of numerous creeks that discharge themselves into the Ohio. At Big Bone lick, thirty miles above the mouth of Kentucky river, I saw them in great numbers. They came screaming through the woods in the morning, about an hour after sunrise, to drink the salt water, of which they, as well as the pigeons, are remarkably fond. When they alighted on the ground, it appeared at a distance as if covered with a carpet of the richest green, orange, and yellow: they afterwards settled, in one body, on a neighbouring tree, which stood detached from any other, covering almost every twig of it, and the sun, shining strongly on their gay and glossy plumage, produced a very beautiful and splendid appearance. Here I had an opportunity of observing some very particular traits of their character: having shot down a number, some of which were only wounded, the whole flock swept repeatedly around their prostrate companions, and again settled on a low tree, within twenty yards of the spot where I stood. At each successive discharge, though showers of them fell, yet the affection of the survivors seemed rather to increase; for, after a few circuits around the place, they again

alighted near me, looking down on their slaughtered companions with such manifest symptoms of sympathy and concern, as entirely disarmed me. I could not but take notice of the remarkable contrast between their elegant manner of flight, and their lame crawling gait among the branches. They fly very much like the wild pigeon, in close compact bodies, and with great rapidity, making a loud and outrageous screaming, not unlike that of the red-headed woodpecker. Their flight is sometimes in a direct line; but most usually circuitous, making a great variety of elegant and easy serpentine meanders, as if for pleasure. They are particularly attached to the large sycamores, in the hollow of the trunks and branches of which they generally roost, thirty or forty, and sometimes more, entering at the same hole. Here they cling close to the sides of the tree, holding fast by the claws and also by the bills. They appear to be fond of sleep, and often retire to their holes during the day, probably to take their regular *siesta*. They are extremely sociable with, and fond of each other, often scratching each other's heads and necks, and always, at night, nestling as close as possible to each other, preferring, at that time, a perpendicular position, supported by their bill and claws. In the fall, when their favourite cockle burs are ripe, they swarm along the coast, or high grounds of the Mississippi, above New Orleans, for a great extent. At such times, they are killed and eaten by many of the inhabitants; though, I confess, I think their flesh very indifferent. I have several times dined on it from necessity, in the woods: but found it merely passable, with all the sauce of a keen appetite to recommend it.

A very general opinion prevails, that the brains and intestines of the Carolina paroquet are a sure and fatal poison to cats. I had determined, when at Big Bone, to put this to the test of experiment; and for that purpose collected the brains and bowels of more than a dozen of them. But after close search, Mistress Puss was not to be found, being engaged perhaps on more agreeable business. I left the medicine with Mr Colquhoun's

agent, to administer it by the first opportunity, and write me the result; but I have never yet heard from him. A respectable lady near the town of Natchez, and on whose word I can rely, assured me, that she herself had made the experiment, and that, whatever might be the cause, the cat had actually died either on that or the succeeding day. A French planter near Bayo Fourche pretended to account to me for this effect by positively asserting, that the seeds of the cockle burs on which the paroquets so eagerly feed, were deleterious to cats; and thus their death was produced by eating the intestines of the bird. These matters might easily have been ascertained on the spot, which, however, a combination of trifling circumstances prevented me from doing. I several times carried a dose of the first description in my pocket till it became insufferable, without meeting with a suitable *patient*, on whom, like other professional gentlemen, I might conveniently make a fair experiment.

I was equally unsuccessful in my endeavours to discover the time of incubation or manner of building among these birds. All agreed that they breed in hollow trees; and several affirmed to me that they had seen their nests. Some said they carried in no materials; others that they did. Some made the eggs white; others speckled. One man assured me that he cut down a large beech tree, which was hollow, and in which he found the broken fragments of upwards of twenty paroquet eggs, which were of a greenish yellow colour. The nests, though destroyed in their texture by the falling of the tree, appeared, he said, to be formed of small twigs glued to each other, and to the side of the tree, in the manner of the chimney swallow. He added, that if it were the proper season, he could point out to me the weed from which they procured the gluey matter. From all these contradictory accounts nothing certain can be deduced, except that they build in companies, in hollow trees. That they commence incubation late in summer, or very early in spring, I think highly probable. from the numerous dissections

I made in the months of March, April, May, and June ; and the great variety which I found in the colour of the plumage of the head and neck of both sexes, during the two former of these months, convinces me, that the young birds do not receive their full colours until the early part of the succeeding summer.

While parrots and paroquets, from foreign countries, abound in almost every street of our large cities, and become such great favourites, no attention seems to have been paid to our own, which in elegance of figure and beauty of plumage is certainly superior to many of them. It wants indeed that disposition for perpetual screaming and chattering that renders some of the former pests, not only to their keepers, but to the whole neighbourhood in which they reside. It is alike docile and sociable ; soon becomes perfectly familiar ; and, until equal pains be taken in its instruction, it is unfair to conclude it incapable of equal improvement in the language of man.

As so little has hitherto been known of the disposition and manners of this species, the reader will not, I hope, be displeased at my detailing some of these, in the history of a particular favourite, my sole companion in many a lonesome day's march.

Anxious to try the effects of education on one of those which I procured at Big Bone lick, and which was but slightly wounded in the wing, I fixed up a place for it in the stern of my boat, and presented it with some cockle burs, which it freely fed on in less than an hour after being on board. The intermediate time between eating and sleeping was occupied in gnawing the sticks that formed its place of confinement, in order to make a practicable breach ; which it repeatedly effected. When I abandoned the river, and travelled by land, I wrapt it up closely in a silk handkerchief, tying it tightly around, and carried it in my pocket. When I stopped for refreshment, I unbound my prisoner, and gave it its allowance, which it generally despatched with great dexterity, unhusking the seeds from the bur in a twinkling ; in doing which it always employed

its left foot to hold the bur, as did several others that I kept for some time. I began to think that this might be peculiar to the whole tribe, and that they all were, if I may use the expression, left-footed; but by shooting a number afterwards while engaged in eating mulberries, I found sometimes the left, sometimes the right foot stained with the fruit; the other always clean; from which, and the constant practice of those I kept, it appears, that like the human species in the use of their hands, they do not prefer one or the other indiscriminately, but are either left or right footed. But to return to my prisoner: In recommitting it to "durance vile" we generally had a quarrel; during which it frequently paid me in kind for the wound I had inflicted, and for depriving it of liberty, by cutting and almost disabling several of my fingers with its sharp and powerful bill. The path through the wilderness between Nashville and Natchez is in some places bad beyond description. There are dangerous creeks to swim, miles of morass to struggle through, rendered almost as gloomy as night by a prodigious growth of timber, and an underwood of canes and other evergreens; while the descent into these sluggish streams is often ten or fifteen feet perpendicular into a bed of deep clay. In some of the worst of these places, where I had, as it were, to fight my way through, the paroquet frequently escaped from my pocket, obliging me to dismount and pursue it through the worst of the morass before I could regain it. On these occasions I was several times tempted to abandon it; but I persisted in bringing it along. When at night I encamped in the woods, I placed it on the baggage beside me, where it usually sat, with great composure, dozing and gazing at the fire till morning. In this manner I carried it upwards of a thousand miles in my pocket, where it was exposed all day to the jolting of the horse, but regularly liberated at meal times and in the evening, at which it always expressed great satisfaction. In passing through the Chickasaw and Chactaw nations, the Indians, wherever I stopped to feed, collected around

me, men, women, and children, laughing and seeming wonderfully amused with the novelty of my companion. The Chickasaws called it in their language "*Kelinky*;" but when they heard me call it Poll, they soon repeated the name; and wherever I chanced to stop among these people, we soon became familiar with each other through the medium of Poll. On arriving at Mr Dunbar's, below Natchez, I procured a cage, and placed it under the piazza, where by its call it soon attracted the passing flocks; such is the attachment they have for each other. Numerous parties frequently alighted on the trees immediately above, keeping up a constant conversation with the prisoner. One of these I wounded slightly in the wing, and the pleasure Poll expressed on meeting with this new companion was really amusing. She crept close up to it as it hung on the side of the cage, chattering to it in a low tone of voice, as if sympathizing in its misfortune, scratched about its head and neck with her bill; and both at night nestled as close as possible to each other, sometimes Poll's head being thrust among the plumage of the other. On the death of this companion, she appeared restless and inconsolable for several days. On reaching New Orleans, I placed a looking glass beside the place where she usually sat, and the instant she perceived her image, all her former fondness seemed to return, so that she could scarcely absent herself from it a moment. It was evident that she was completely deceived. Always when evening drew on, and often during the day, she laid her head close to that of the image in the glass, and began to doze with great composure and satisfaction. In this short space she had learnt to know her name; to answer and come when called on; to climb up my clothes, sit on my shoulder, and eat from my mouth. I took her with me to sea, determined to persevere in her education; but, destined to another fate, poor Poll, having one morning, about daybreak wrought her way through the cage, while I was asleep, instantly flew overboard, and perished in the Gulf of Mexico.

The Carolina, or Illinois parrot, (for it has been described under both these appellations,) is thirteen inches long, and twenty-one in extent; forehead and cheeks, orange red; beyond this, for an inch and a half, down and round the neck, a rich and pure yellow; shoulder and bend of the wing, also edged with rich orange red. The general colour of the rest of the plumage is a bright yellowish silky green, with light blue reflections, lightest and most diluted with yellow below; greater wing-coverts and roots of the primaries, yellow, slightly tinged with green; interior webs of the primaries, deep dusky purple, almost black, exterior ones, bluish green; tail, long, cuneiform, consisting of twelve feathers, the exterior one only half the length, the others increasing to the middle ones, which are streaked along the middle with light blue; shafts of all the larger feathers, and of most part of the green plumage, black; knees and vent, orange yellow; feet, a pale whitish flesh colour; claws, black; bill, white, or slightly tinged with pale cream; iris of the eye, hazel; round the eye is a small space without feathers, covered with a whitish skin; nostrils placed in an elevated membrane at the base of the bill, and covered with feathers; chin, wholly bare of feathers, but concealed by those descending on each side; from each side of the palate hangs a lobe or skin of a blackish colour; tongue, thick and fleshy; inside of the upper mandible near the point, grooved exactly like a file, that it may hold with more security.

The female differs very little in her colours and markings from the male. After examining numerous specimens, the following appear to be the principal differences. The yellow on the neck of the female does not descend quite so far; the interior vanes of the primaries are brownish, instead of black, and the orange red on the bend and edges of the wing is considerably narrower; in other respects, the colours and markings are nearly the same.

The young birds of the preceding year, of both sexes, are generally destitute of the yellow on the head and

neck, until about the beginning or middle of March, having those parts wholly green, except the front and cheeks, which are orange red in them as in the full grown birds. Towards the middle of March the yellow begins to appear, in detached feathers, interspersed among the green, varying in different individuals. In some which I killed about the last of that month, only a few green feathers remained among the yellow; and these were fast assuming the yellow tint: for the colour changes without change of plumage. A number of these birds, in all their grades of progressive change from green to yellow, have been deposited in Mr Peale's museum.

What is called by Europeans the Illinois parrot (*psittacus pertinax*) is evidently the young bird in its imperfect colours. Whether the present species be found as far south as Brazil, as these writers pretend, I am unable to say; but, from the great extent of country in which I have myself killed and examined these birds, I am satisfied that the present species, now described, is the only one inhabiting the United States.

Since the foregoing was written, I have had an opportunity, by the death of a tame Carolina paroquet, to ascertain the fact of the poisonous effects of their head and intestines on cats. Having shut up a cat and her two kittens, (the latter only a few days old,) in a room with the head, neck, and whole intestines of the paroquet, I found, on the next morning, the whole eaten except a small part of the bill. The cat exhibited no symptom of sickness; and, at this moment, three days after the experiment has been made, she and her kittens are in their usual health. Still, however, the • effect might have been different, had the daily food of the bird been cockle burs, instead of Indian corn.

FAMILY IV.

AMPHIBOLI, ILLIGER.

GENUS V. — *COCCYZUS*, VIEILL.

36. *COCCYZUS AMERICANUS*, BONAPARTE.

CUCULUS CAROLINENSIS, WILSON. — YELLOW-BILLED CUCKOO

WILSON, PLATE XXVIII. FIG. 1. — EDINBURGH COLLEGE MUSEUM

A STRANGER who visits the United States for the purpose of examining their natural productions, and passes through our woods in the month of May or June, will sometimes hear, as he traverses the border of deep, retired, high timbered hollows, an uncouth guttural sound, or note, resembling the syllables *how-kowe, kowe kowe kowe*, beginning slowly, but ending rapidly, that the notes seem to run into each other and *vice versa*: he will hear this frequently, without being able to discover the bird or animal from which it proceeds, as it is both shy and solitary, seeking always the thickest foliage for concealment. This is the yellow-billed cuckoo, the subject of the present account. From the imitative sound of its note, it is known in many parts by the name of the *cow-bird*; it is also called in Virginia, the *rain crow*, being observed to be most clamorous immediately before rain.

This species arrives in Pennsylvania, from the south about the twenty-second of April, and spreads over the country, as far at least as Lake Ontario; is numerous in the Chickasaw and Chactaw nations; and also breeds in the upper parts of Georgia; preferring, in all the places, the borders of solitary swamps, and apple orchards. It leaves us, on its return southward, about the middle of September.

The singular, I will not say unnatural, conduct of the European cuckoo (*cuculus canorus*), which never constructs a nest for itself, but drops its eggs in those of other birds, and abandons them to their mercy and management, is so universally known, and so proverbial, that the whole tribe of cuckoos have, by some inconsiderate people, been stigmatized as destitute of all parental care and affection. Without attempting to account for this remarkable habit of the European species, far less to consider as an error what the wisdom of Heaven has imposed as a duty upon the species, I will only remark, that the bird now before us builds its own nest, hatches its own eggs, and rears its own young; and, in conjugal and parental affection, seems nowise behind any of its neighbours of the grove.

Early in May, they begin to pair, when obstinate battles take place among the males. About the tenth of that month, they commence building. The nest is usually fixed among the horizontal branches of an apple tree; sometimes in a solitary thorn, crab, or cedar, in some retired part of the woods. It is constructed, with little art, and scarcely any concavity, of small sticks and twigs, intermixed with green weeds, and blossoms of the common maple. On this almost flat bed, the eggs, usually three or four in number, are placed; these are of a uniform greenish blue colour, and of a size proportionable to that of the bird. While the female is sitting, the male is generally not far distant, and gives the alarm, by his notes, when any person is approaching. The female sits so close, that you may almost reach her with your hand, and then precipitates herself to the ground, feigning lameness, to draw you away from the spot, fluttering, trailing her wings, and tumbling over, in the manner of the partridge, woodcock, and many other species. Both parents unite in providing food for the young. This consists, for the most part, of caterpillars, particularly such as infest apple trees. The same insects constitute the chief part of their own sustenance. They are accused, and with some justice, of sucking the eggs of

other birds, like the crow, the blue jay, and other pillagers. They also occasionally eat various kinds of berries. But, from the circumstance of destroying such numbers of very noxious larvæ, they prove themselves the friends of the farmer, and are highly deserving of his protection.

The yellow-billed cuckoo is thirteen inches long, and sixteen inches in extent; the whole upper parts are of a dark glossy drab, or what is usually called a quaker colour, with greenish silky reflections; from this must, however, be excepted the inner vanes of the wings, which are bright reddish cinnamon; the tail is long, composed of ten feathers, the two middle ones being of the same colour as the back, the others, which gradually shorten to the exterior ones, are black, largely tipped with white; the two outer ones are scarcely half the length of the middle ones. The whole lower parts are pure white; the feathers covering the thighs being large, like those of the hawk tribe; the legs and feet are light blue, the toes placed two before and two behind, as in the rest of the genus. The bill is long, a little bent, very broad at the base, dusky black above, and yellow below; the eye hazel, feathered close to the eyelid, which is yellow. The female differs little from the male; the four middle tail feathers in her are of the same uniform drab; and the white, with which the others are tipped, not so pure as in the male.

In examining this bird by dissection, the inner membrane of the gizzard, which in many other species is so hard and muscular, in this is extremely lax and soft, capable of great distension; and, what is remarkable, is covered with a growth of fine down, or hair, of a light fawn colour. It is difficult to ascertain the particular purpose which nature intends by this excrescence; perhaps it may serve to shield the tender parts from the irritating effects produced by the hairs of certain caterpillars, some of which are said to be almost equal to the sting of a nettle.

37. *COCCYZUS ERYTHROPHthalmus*, BONAPARTE.*CUCULUS ERYTHROPHthalmus*, WILSON. — BLACK-BILLED CUCKOO.

WILSON, PLATE XXVIII. FIG. II.—EDINBURGH COLLEGE MUSEUM.

THIS cuckoo is nearly as numerous as the former, but has hitherto escaped the notice of European naturalists; or, from its general resemblance, has been confounded with the preceding. Its particular markings, however, and some of its habits, sufficiently characterize it as a distinct species. Its general colour above is nearly that of the former, inclining more to a pale ash on the cheeks and front; it is about an inch less in length; the tail is of a uniform dark silky drab, except at the tip, where each feather is marked with a spot of white, bordered above with a slight touch of dull black; the bill is wholly black, and much smaller than that of the preceding; and it wants the bright cinnamon on the wings. But what constitutes its most distinguishing trait is, a bare wrinkled skin, of a deep red colour, that surrounds the eye. The female differs little in external appearance from the male.

The black-billed cuckoo is particularly fond of the sides of creeks, feeding on small shell fish, snails, &c. I have also often found broken pieces of oyster shells in its gizzard, which, like that of the other, is covered with fine downy hair.

The nest of this bird is most commonly built in a cedar, much in the same manner, and of nearly the same materials, as that of the other; but the eggs are smaller, usually four or five in number, and of a rather deeper greenish blue.

This bird is likewise found in the state of Georgia, and has not escaped the notice of Mr Abbot, who is satisfied of its being a distinct species from the preceding.

FAMILY V.

SAGITTILINGUES, ILLIGER.

GENUS VI. — *PICUS*, LINNÆUS.

38. *PICUS PRINCIPALIS*, LINNÆUS. — IVORY-BILLED WOODPECKER.

WILSON, PL. XXIX. FIG. 1. — MALE. — EDINBURGH COLLEGE
MUSEUM.

THIS majestic and formidable species, in strength and magnitude, stands at the head of the whole class of woodpeckers hitherto discovered. He may be called the king or chief of his tribe; and nature seems to have designed him a distinguished characteristic in the superb carmine crest and bill of polished ivory with which she has ornamented him. His eye is brilliant and daring; and his whole frame so admirably adapted for his mode of life, and method of procuring subsistence, as to impress on the mind of the examiner the most reverential ideas of the Creator. His manners have also a dignity in them superior to the common herd of woodpeckers. Trees, shrubbery, orchards, rails, fence posts, and old prostrate logs, are alike interesting to those, in their humble and indefatigable search for prey; but the royal hunter now before us, scorns the humility of such situations, and seeks the most towering trees of the forest; seeming particularly attached to those prodigious cypress swamps, whose crowded giant sons stretch their bare and blasted or moss-hung arms midway to the skies. In these almost inaccessible recesses, amid ruinous piles of impending timber, his trumpet-

like note and loud strokes resound through the solitary savage wilds, of which he seems the sole lord and inhabitant. Wherever he frequents he leaves numerous monuments of his industry behind him. We there see enormous pine trees with cartloads of bark lying around their roots, and chips of the trunk itself in such quantities as to suggest the idea that half a dozen of axe-men had been at work there for the whole morning. The body of the tree is also disfigured with such numerous and so large excavations, that one can hardly conceive it possible for the whole to be the work of a woodpecker. With such strength, and an apparatus so powerful, what havoc might he not commit, if numerous, on the most useful of our forest trees! and yet with all these appearances, and much of vulgar prejudice against him, it may fairly be questioned whether he is at all injurious; or, at least, whether his exertions do not contribute most powerfully to the protection of our timber. Examine closely the tree where he has been at work, and you will soon perceive, that it is neither from motives of mischief nor amusement that he slices off the bark, or digs his way into the trunk.—For the sound and healthy tree is the least object of his attention. The diseased, infested with insects, and hastening to putrefaction, are *his* favourites; there the deadly crawling enemy have formed a lodgement between the bark and tender wood, to drink up the very vital part of the tree. It is the ravages of these vermin which the intelligent proprietor of the forest deplures, as the sole perpetrators of the destruction of his timber. Would it be believed that • the larvæ of an insect, or fly, no larger than a grain of rice, should silently, and in one season, destroy some thousand acres of pine trees, many of them from two to three feet in diameter, and a hundred and fifty feet high! Yet whoever passes along the high road from Georgetown to Charleston, in South Carolina, about twenty miles from the former place, can have striking and melancholy proofs of this fact. In some places

the whole woods, as far as you can see around you, are dead, stripped of the bark, their wintry-looking arms and bare trunks bleaching in the sun, and tumbling in ruins before every blast, presenting a frightful picture of desolation. And yet ignorance and prejudice stubbornly persist in directing their indignation against the bird now before us, the constant and mortal enemy of these very vermin, as if the hand that probed the wound to extract its cause, should be equally detested with that which inflicted it; or as if the thief-catcher should be confounded with the thief. Until some effectual preventive or more complete mode of destruction can be devised against these insects, and their larvæ, I would humbly suggest the propriety of protecting, and receiving with proper feelings of gratitude, the services of this and the whole tribe of woodpeckers, letting the odium of guilt fall to its proper owners.

In looking over the accounts given of the ivory-billed woodpecker by the naturalists of Europe, I find it asserted, that it inhabits from New Jersey to Mexico. I believe, however, that few of them are ever seen to the north of Virginia, and very few of them even in that state. The first place I observed this bird at, when on my way to the south, was about twelve miles north of Wilmington in North Carolina. Having wounded it slightly in the wing, on being caught, it uttered a loudly reiterated, and most piteous note, exactly resembling the violent crying of a young child; which terrified my horse so, as nearly to have cost me my life. It was distressing to hear it. I carried it with me in the chair, under cover, to Wilmington. In passing through the streets, its affecting cries surprised every one within hearing, particularly the females, who hurried to the doors and windows with looks of alarm and anxiety. I drove on, and, on arriving at the piazza of the hotel, where I intended to put up, the landlord came forward, and a number of other persons who happened to be there, all equally alarmed at what they heard; this was greatly increased by my asking, whether he could furnish me with accommodations for myself

and my baby. The man looked blank and foolish, while the others stared with still greater astonishment. After diverting myself for a minute or two at their expense, I drew my woodpecker from under the cover, and a general laugh took place. I took him up stairs and locked him up in my room, while I went to see my horse taken care of. In less than an hour I returned, and, on opening the door, he set up the same distressing shout, which now appeared to proceed from grief that he had been discovered in his attempts at escape. He had mounted along the side of the window, nearly as high as the ceiling, a little below which he had begun to break through. The bed was covered with large pieces of plaster; the lath was exposed for at least fifteen inches square, and a hole, large enough to admit the fist, opened to the weather-boards; so that in less than another hour he would certainly have succeeded in making his way through. I now tied a string round his leg, and, fastening it to the table, again left him. I wished to preserve his life, and had gone off in search of suitable food for him. As I reascended the stairs, I heard him again hard at work, and on entering had the mortification to perceive that he had almost entirely ruined the mahogany table to which he was fastened, and on which he had wreaked his whole vengeance. While engaged in taking a drawing, he cut me severely in several places, and, on the whole, displayed such a noble and unconquerable spirit, that I was frequently tempted to restore him to his native woods. He lived with me nearly three days, but refused all sustenance, and I witnessed his death with regret.

The head and bill of this bird is in great esteem among the southern Indians, who wear them by way of amulet or charm, as well as ornament; and, it is said, dispose of them to the northern tribes at considerable prices. An Indian believes that the head, skin, or even feathers of certain birds, confer on the wearer all the virtues or excellencies of those birds. Thus I have

seen a coat made of the skins, heads, and claws of the raven; caps stuck round with heads of butcher-birds, hawks, and eagles; and as the disposition and courage of the ivory-billed woodpecker are well known to the savages, no wonder they should attach great value to it, having both beauty, and, in their estimation, distinguished merit to recommend it.

This bird is not migratory, but resident in the countries where it inhabits. In the low countries of the Carolinas it usually prefers the large timbered cypress swamps for breeding in. In the trunk of one of these trees, at a considerable height, the male and female alternately, and in conjunction, dig out a large and capacious cavity for their eggs and young. Trees thus dug out have frequently been cut down, with sometimes the eggs and young in them. This hole, according to information,—for I have never seen one myself,—is generally a little winding, the better to keep out the weather, and from two to five feet deep. The eggs are said to be generally four, sometimes five, as large as a pullet's, pure white, and equally thick at both ends,—a description that, except in size, very nearly agrees with all the rest of our woodpeckers. The young begin to be seen abroad about the middle of June. Whether they breed more than once in the same season is uncertain.

So little attention do the people of the countries where these birds inhabit, pay to the minutiae of natural history, that, generally speaking, they make no distinction between the ivory-billed and pileated woodpecker; and it was not till I shewed them the two birds together, that they knew of any difference. The more intelligent and observing part of the natives, however, distinguish them by the name of the large and lesser *logcocks*. They seldom examine them but at a distance, gunpowder being considered too precious to be thrown away on woodpeckers; nothing less than a turkey being thought worth the value of a load.

The food of this bird consists, I believe, entirely of

insects and their larvæ. The pileated woodpecker is suspected of sometimes tasting the Indian corn: the ivory-billed never. His common note, repeated every three or four seconds, very much resembles the tone of a trumpet, or the high note of a clarionet, and can plainly be distinguished at the distance of more than half a mile; seeming to be immediately at hand, though perhaps more than one hundred yards off. This it utters while mounting along the trunk or digging into it. At these times it has a stately and novel appearance; and the note instantly attracts the notice of a stranger. Along the borders of the Savannah river, between Savannah and Augusta, I found them very frequently; but my horse no sooner heard their trumpet-like note, than, remembering his former alarm, he became almost ungovernable.

- The ivory-billed woodpecker is twenty inches long, and thirty inches in extent; the general colour is black, with a considerable gloss of green when exposed to a good light; iris of the eye, vivid yellow; nostrils, covered with recumbent white hairs; fore part of the head, black; rest of the crest of a most splendid red, spotted at the bottom with white, which is only seen when the crest is erected; this long red plumage being ash-coloured at its base, above that white, and ending in brilliant red; a stripe of white proceeds from a point, about half an inch below each eye, passes down each side of the neck, and along the back, where they are about an inch apart, nearly to the rump; the first five primaries are wholly black; on the next five the white spreads from the tip higher and higher to the
- secondaries, which are wholly white from their coverts downward. These markings, when the wings are shut, make the bird appear as if his back were white; hence he has been called by some of our naturalists the large white-backed woodpecker. The neck is long; the beak an inch broad at the base, of the colour and consistence of ivory, prodigiously strong and elegantly fluted. The tail is black, tapering from the two exte-

rior feathers, which are three inches shorter than the middle ones, and each feather has the singularity of being greatly concave below; the wing is lined with yellowish white; the legs are about an inch and a quarter long, the exterior toe about the same length, the claws exactly semicircular and remarkably powerful, the whole of a light blue or lead colour. The female is about half an inch shorter, the bill rather less, and the whole plumage of the head black, glossed with green; in the other parts of the plumage, she exactly resembles the male. In the stomachs of three which I opened, I found large quantities of a species of worm called borers, two or three inches long, of a dirty cream colour, with a black head; the stomach was an oblong pouch, not muscular like the gizzards of some others. The tongue was worm-shaped, and for half an inch at the tip as hard as horn, flat, pointed, of the same white colour as the bill, and thickly barbed on each side.

39. *PICUS PILEATUS*, LINNÆUS. — PILEATED WOODPECKER.

WILSON, PL. XXIX. FIG. II. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS American species is the second in size among his tribe, and may be styled the great northern chief of the woodpeckers, though, in fact, his range extends over the whole of the United States from the interior of Canada to the Gulf of Mexico. He is very numerous in the Genesee country, and in all the tracts of high timbered forests, particularly in the neighbourhood of our large rivers, where he is noted for making a loud and almost incessant cackling before wet weather; flying at such times in a restless uneasy manner from tree to tree, making the woods echo to his outcry. In Pennsylvania and the northern states he is called the black woodcock; in the southern states, the logcock. Almost every old trunk in the forest where he resides bears the marks of his chisel.

Wherever he perceives a tree beginning to decay, he examines it round and round with great skill and dexterity, strips off the bark in sheets of five or six feet in length, to get at the hidden cause of the disease, and labours with a gaiety and activity really surprising. I have seen him separate the greatest part of the bark from a large dead pine tree, for twenty or thirty feet, in less than a quarter of an hour. Whether engaged in flying from tree to tree, in digging, climbing, or barking, he seems perpetually in a hurry. He is extremely hard to kill, clinging close to the tree even after he has received his mortal wound; nor yielding up his hold but with his expiring breath. If slightly wounded in the wing, and dropt while flying, he instantly makes for the nearest tree, and strikes with great bitterness at the hand stretched out to seize him; and can rarely be reconciled to confinement. He is sometimes observed among the hills of Indian corn, and it is said by some that he frequently feeds on it. Complaints of this kind are, however, not general; many farmers doubting the fact, and conceiving that at these times he is in search of insects which lie concealed in the husk. I will not be positive that they never occasionally taste maize; yet I have opened and examined great numbers of these birds, killed in various parts of the United States, from Lake Ontario to the Alatomaha river, but never found a grain of Indian corn in their stomachs.

- The pileated woodpecker is not migratory, but braves the extremes of both the arctic and torrid regions. Neither is he gregarious, for it is rare to see more than one or two, or at the most three, in company. Formerly they were numerous in the neighbourhood of Philadelphia; but gradually, as the old timber fell, and the country became better cleared, they retreated to the forest. At present few of those birds are to be found within ten or fifteen miles of the city.

Their nest is built, or rather the eggs are deposited, in the hole of a tree, dug out by themselves, no other

materials being used but the soft chips of rotten wood. The female lays six large eggs of a snowy whiteness; and, it is said, they generally raise two broods in the same season.

This species is eighteen inches long, and twenty-eight in extent; the general colour is a dusky brownish black; the head is ornamented with a conical cap of bright scarlet; two scarlet mustaches proceed from the lower mandible; the chin is white; the nostrils are covered with brownish white hair-like feathers, and this stripe of white passes from thence down the side of the neck to the sides, spreading under the wings; the upper half of the wings are white, but concealed by the black coverts; the lower extremities of the wings are black, so that the white on the wing is not seen but when the bird is flying, at which time it is very prominent; the tail is tapering, the feathers being very convex above, and strong; the legs are of a leaden gray colour, very short, scarcely half an inch; the toes very long; the claws strong and semicircular, and of a pale blue; the bill is fluted, sharply ridged, very broad at the base, bluish black above, below and at the point bluish white; the eye is of a bright golden colour, the pupil black; the tongue, like those of its tribe, is worm-shaped, except near the tip, where for one-eighth of an inch it is horny, pointed, and beset with barbs.

The female has the forehead, and nearly to the crown, of a light brown colour, and the mustaches are dusky, instead of red. In both a fine line of white separates the red crest from the dusky line that passes over the eye.

40. *PICUS AURATUS*, LINNÆUS. — GOLD-WINGED WOODPECKER.

WILSON, PLATE III. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THIS elegant bird is well known to our farmers and junior sportsmen, who take every opportunity of destroying him; the former, for the supposed trespasses he commits on their Indian corn, or the trifle he will bring in market, and the latter for the mere pleasure of destruction, and perhaps for the flavour of his flesh, which is in general esteem. In the state of Pennsylvania, he can scarcely be called a bird of passage, as, even in severe winters, they may be found within a few miles of the city of Philadelphia; and I have known them exposed for sale in market every week during the months of November, December, and January, and that, too, in more than commonly rigorous weather. They no doubt, however partially, migrate, even here; being much more numerous in spring and fall, than in winter. Early in the month of April, they begin to prepare their nest, which is built in the hollow body, or branch of a tree, sometimes, though not always, at a considerable height from the ground; for I have frequently known them fix on the trunk of an old apple tree, at not more than six feet from the root. The sagacity of this bird in discovering, under a sound bark, a hollow limb or trunk of a tree, and its perseverance in perforating it for the purpose of incubation, is truly surprising; the male and female alternately relieving and encouraging each other, by mutual caresses, renewing their labours for several days, till the object is attained, and the place rendered sufficiently capacious, convenient, and secure. At this employment they are so extremely intent, that they may be heard till a very late hour in the evening, thumping like carpenters. I have seen an instance

where they had dug first five inches straight forward, and then downward more than twice that distance, through a solid black oak. They carry in no materials for their nest, the soft chips and dust of the wood serving all their purpose. The female lays six white eggs, almost transparent, very thick at the greater end, and tapering suddenly to the other. The young early leave the nest, and, climbing to the higher branches, are there fed by their parents.

The food of this bird varies with the season. When the common cherries, bird cherries, and berries of the sour gum, successively ripen, he regales plentifully on them, particularly on the latter; but the chief food of this species, or that which is most usually found in his stomach, is wood lice, and the young and larvæ of ants, of which he is so immoderately fond, that I have frequently found his stomach distended with a mass of these, and these only, as large nearly as a plumb: for the procuring of these insects, nature has remarkably fitted him. The bills of woodpeckers, in general, are straight, grooved or channelled, wedge-shaped, and compressed to a thin edge at the end, that they may the easier penetrate the hardest wood; that of the gold-winged woodpecker is long, slightly bent, ridged only on the top, and tapering almost to a point, yet still retaining a little of the wedge form there. Both, however, are admirably adapted for the peculiar manner each has of procuring its food. The former, like a powerful wedge, to penetrate the dead and decaying branches, after worms and insects; the latter, like a long and sharp pickaxe, to dig up the hillocks of pismires, that inhabit old stumps in prodigious multitudes. These beneficial services would entitle him to some regard from the husbandman, were he not accused, and perhaps not without just cause, of being too partial to the Indian corn, when in that state which is usually called *roasting-ears*. His visits are indeed rather frequent about this time; and the farmer, suspecting what is going on, steals through among the rows with his

gun, bent on vengeance, and, forgetful of the benevolent sentiment of the poet, that

—— Just as wide of justice he must fall,
Who thinks all made for one, not one for all.

But farmers, in general, are not much versed in poetry, and pretty well acquainted with the value of corn, from the hard labour requisite in raising it.

In rambling through the woods one day, I happened to shoot one of these birds, and wounded him slightly on the wing. Finding him in full feather, and seemingly but little hurt, I took him home, and put him into a large cage, made of willows, intending to keep him in my own room, that we might become better acquainted. As soon as he found himself enclosed on all sides, he lost no time in idle fluttering, but, throwing himself against the bars of the cage, began instantly to demolish the willows, battering them with great vehemence, and uttering a loud piteous kind of cackling, similar to that of a hen when she is alarmed, and takes to wing. Poor Baron Trenck never laboured with more eager diligence at the walls of his prison, than this son of the forest in his exertions for liberty; and he exercised his powerful bill with such force, digging into the sticks, seizing and shaking them so from side to side, that he soon opened for himself a passage; and, though I repeatedly repaired the breach, and barricaded every opening, in the best manner I could, yet, on my return into the room, I always found him at large, climbing up the chairs, or running about the floor, where, from the dexterity of his motions, moving backward, forward, and sidewise, with the same facility, it became difficult to get hold of him again. Having placed him in a strong wire cage, he seemed to give up all hopes of making his escape, and soon became very tame; fed on young ears of Indian corn; refused apples, but ate the berries of the sour gum greedily, small winter grapes, and several other kinds of berries; exercised himself frequently in climbing, or

rather hopping perpendicularly along the sides of the cage; and, as evening drew on, fixed himself in a high hanging, or perpendicular position, and slept with his head in his wing. As soon as dawn appeared, even before it was light enough to perceive him distinctly across the room, he descended to the bottom of the cage, and began his attack on the ears of Indian corn rapping so loud, as to be heard from every room in the house. After this he would sometimes resume his former position, and take another nap. He was beginning to become very amusing, and even sociable when, after a lapse of several weeks, he became drooping, and died, as I conceived, from the effects of his wound.

Some European naturalists, (and, among the rest Linnaeus himself, in his tenth edition of *Systeme Nature*,) have classed this bird with the genus *cuculus* or cuckoo, informing their readers, that it possesses many of the habits of the cuckoo; that it is almost always on the ground; is never seen to climb trees like the other woodpeckers, and that its bill is altogether unlike theirs; every one of which assertions, I must say, is incorrect, and could have only proceeded from an entire unacquaintance with the manners of the bird. Except in the article of the bill, and that, as has been before observed, is still a little wedge-formed at the point, it differs in no one characteristic from the rest of its genus. Its nostrils are covered with tufts of recumbent hairs, or small feathers; its tongue is round, worm-shaped, flattened towards the tip, pointed and furnished with minute barbs; it is also long missile, and can be instantaneously protruded to an uncommon distance. The *os hyoides*, or internal parts of the tongue, like those of its tribe, is a substance, for strength and elasticity, resembling whalebone, divided into two branches, each the thickness of a knitting needle, that pass, one on each side of the neck, to the hind head, where they unite, and run up along the skull in a groove, covered with a thin membrane, or

sheath; descend into the upper mandible by the right side of the right nostril, and reach to within half an inch of the point of the bill, to which they are attached by another extremely elastic membrane, that yields when the tongue is thrown out, and contracts as it is retracted. In the other woodpeckers we behold the same apparatus, differing a little in different species. In some, these cartilaginous substances reach only to the top of the cranium; in others, they reach to the nostril; and, in one species, they are wound round the bone of the right eye, which projects considerably more than the left, for its accommodation.

The tongue of the gold-winged woodpecker, like the others, is also supplied with a viscid fluid, secreted by two glands that lie under the ear on each side, and are at least five times larger in this species than in any other of its size; with this the tongue is continually moistened, so that every small insect it touches instantly adheres to it. The tail, in its strength and pointedness, as well as the feet and claws, prove that the bird was designed for climbing; and in fact I have scarcely ever seen it on a tree five minutes at a time without climbing; hopping not only upward and downward, but spirally; pursuing and playing with its fellow in this manner round the body of the tree. I have also seen them a hundred times alight on the trunk of the tree, though they more frequently alight on the branches; but that they climb, construct like nests, lay the same number and the like coloured eggs, and have the manners and habits of the woodpeckers, is notorious to every American naturalist; while neither in the form of their body, nor any other part, except in the bill being somewhat bent, and the toes placed two before and two behind, have they the smallest resemblance whatever to the cuckoo.

It may not be improper, however, to observe, that there is another species of woodpecker, called also gold-winged,* which inhabits the country near the

* *Picus vafer*, Turton's Linn.

Cape of Good Hope, and resembles the present, it is said, almost exactly in the colour and form of its bill, and in the tint and markings of its plumage, with this difference, that the mustaches are red, instead of black, and the lower side of the wings, as well as their shafts, are also red, where the other is golden yellow. It is also considerably less. With respect to the habits of this new species, we have no particular account; but there is little doubt that they will be found to correspond with the one we are now describing.

The abject and degraded character which the Count de Buffon, with equal eloquence and absurdity, has drawn of the whole tribe of woodpeckers, belongs not to the elegant and sprightly bird now before us. How far it is applicable to any of them will be examined hereafter. He is not "constrained to drag out an insipid existence in boring the bark and hard fibres of trees to extract his prey," for he frequently finds in the loose mouldering ruins of an old stump (the capital of a nation of pismires) more than is sufficient for the wants of a whole week. *He* cannot be said to "lead a mean and gloomy life, without an intermission of labour," who usually feasts by the first peep of dawn, and spends the early and sweetest hours of morning on the highest peaks of the tallest trees, calling on his mate or companions, or pursuing and gamboling with them round the larger limbs and body of the tree for hours together; for such are really his habits. Can it be said, that "necessity never grants an interval of sound repose" to that bird, who, while other tribes are exposed to all the peltings of the midnight storm, lodges dry and secure in a snug chamber of his own constructing? or that "the narrow circumference of a tree circumscribes *his* dull round of life," who, as seasons and inclination inspire, roams from the frigid to the torrid zone, feasting on the abundance of various regions? Or is it a proof that "his appetite is never softened by delicacy of taste," because he so often varies his bill of fare, occasionally preferring to animal food the rich milkiness

of young Indian corn, and the wholesome and nourishing berries of the wild cherry, sour gum, and red cedar? Let the reader turn to any living representative of the species, and say whether his looks be "sad and melancholy." It is truly ridiculous and astonishing that such absurdities should escape the lips or pen of one so able to do justice to the respective merits of every species; but Buffon had too often a favourite theory to prop up, that led him insensibly astray; and so, forsooth, the whole family of woodpeckers must look sad, sour, and be miserable, to satisfy the caprice of a whimsical philosopher, who takes it into his head that they are, and ought to be so!

But the Count is not the only European who has misrepresented and traduced this beautiful bird. One has given him brown legs;* another a yellow neck;† a third has declared him a cuckoo;‡ and, in an English translation of Linnaeus's *System of Nature*, lately published, he is characterized as follows: "Body, striated with black and gray; cheeks, red; chin, black; never climbs on trees;"§ which is just as correct as if, in describing the human species, we should say—skin striped with black and green; cheeks, blue; chin, orange; never walks on foot, &c. The pages of natural history should resemble a faithful mirror, in which mankind may recognize the true images of the living originals; instead of which, we find this department of them too often like the hazy and rough medium of wretched window-glass, through whose crooked protuberances every thing appears so strangely distorted, that one scarcely knows their most intimate neighbours and acquaintances.

- The gold-winged woodpecker has the back and wings above of a dark umber, transversely marked with equidistant streaks of black; upper part of the head, an iron gray; cheeks and parts surrounding the eyes, a

* See *Encyc. Brit. Art. Picus.* † Latham. ‡ Klein.

§ "P. griseo nigroque transversim striatus"——"truucoo arborum non scandit."—*Ind. Orn.* vol. I, p. 242.

fine cinnamon colour; from the lower mandible a strip of black, an inch in length, passes down each side of the throat, and a lunated spot, of a vivid blood red, covers the hind head, its two points reaching within half an inch of each eye; the sides of the neck, below this, incline to a bluish gray; throat and chin, a very light cinnamon or fawn colour; the breast is ornamented with a broad crescent of deep black; the belly and vent, white, tinged with yellow, and scattered with innumerable round spots of black, every feather having a distinct central spot, those on the thighs and vent being heart-shaped and largest; the lower or inner side of the wing and tail, shafts of all the larger feathers, and indeed of almost every feather, are of a beautiful golden yellow; that on the shafts of the primaries being very distinguishable, even when the wings are shut; the rump is white, and remarkably prominent; the tail-coverts white, and curiously serrated with black; upper side of the tail, and the tip below, black, edged with light loose filaments of a cream colour, the two exterior feathers, serrated with whitish; shafts, black towards the tips, the two middle ones, nearly wholly so; bill, an inch and a half long, of a dusky horn colour, somewhat bent, ridged only on the top, tapering, but not to a point, that being a little wedge-formed; legs and feet, light blue; iris of the eye, hazel; length, twelve inches; extent, twenty. The female differs from the male chiefly in the greater obscurity of the fine colours, and in wanting the black mustaches on each side of the throat. This description was taken from a very beautiful and perfect specimen.

Though this species, generally speaking, is migratory, yet they often remain with us in Pennsylvania during the whole winter. They also inhabit the continent of North America, from Hudson's Bay to Georgia; and have been found by voyagers on the north-west coast of America. They arrive at Hudson's Bay in April, and leave it in September. Mr Hearne, however, informs us, that "the gold-winged woodpecker is almost

the only species of woodpecker that winters near Hudson's Bay." The natives there call it *Ou-thee-quan-nor-ow*, from the golden colour of the shafts and under side feathers of the wings. It has numerous provincial appellations in the different states of the Union, such as "High-hole," from the situation of its nest, and "Hittock," "Yucker," "Piut," "Flicker," by which last it is usually known in Pennsylvania. These names have probably originated from a fancied resemblance of its notes to the sound of the words; for one of its most common cries consists of two notes, or syllables, frequently repeated, which, by the help of the hearer's imagination, may easily be made to resemble any or all of them.

41. *PICUS ERYTHROCEPHALUS*, LINNÆUS. — RED-HEADED
WOODPECKER.

WILSON, PLATE IX. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

- THERE is perhaps no bird in North America more universally known than this. His tri-coloured plumage, red, white, and black, glossed with steel blue, is so striking, and characteristic; and his predatory habits in the orchards and cornfields, added to his numbers, and fondness for hovering along the fences, so very notorious, that almost every child is acquainted with the red-headed woodpecker. In the immediate neighbourhood of our large cities, where the old timber is chiefly cut down, he is not so frequently found; and yet, at this present time, June, 1808, I know of several of their nests within the boundaries of the city of Philadelphia. Two of these are in button-wood trees (*platanus occidentalis*), and another in the decayed limb of a large elm. The old ones, I observe, make their excursions regularly to the woods beyond the Schuylkill, about a mile distant; preserving great silence and circumspection in visiting their nests,—precautions not much attended to by them in the depth of the woods,

because there the prying eye of man is less to be dreaded. Towards the mountains, particularly in the vicinity of creeks and rivers, these birds are extremely abundant, especially in the latter end of summer. Wherever you travel in the interior at that season, you hear them screaming from the adjoining woods, rattling on the dead limbs of trees, or on the fences, where they are perpetually seen flitting from stake to stake, on the roadside, before you. Wherever there is a tree, or trees, of the wild cherry, covered with ripe fruit, there you see them busy among the branches; and, in passing orchards, you may easily know where to find the earliest, sweetest apples, by observing those trees, on or near which the red-headed woodpecker is skulking; for he is so excellent a connoisseur in fruit, that wherever an apple or pear tree is found broached by him, it is sure to be among the ripest and best flavoured: when alarmed, he seizes a capital one by striking his open bill deep into it, and bears it off to the woods. When the Indian corn is in its rich, succulent, milky state, he attacks it with great eagerness, opening a passage through the numerous folds of the husk, and feeding on it with voracity. The girdled, or deadened timber, so common among cornfields in the back settlements, are his favourite retreats, whence he sallies out to make his depredations. He is fond of the ripe berries of the sour gum, and pays pretty regular visits to the cherry trees, when loaded with fruit. Towards fall he often approaches the barn or farm house, and raps on the shingles and weather boards: he is of a gay and frolicsome disposition; and half a dozen of the fraternity are frequently seen diving and vociferating around the high dead limbs of some large tree, pursuing and playing with each other, and amusing the passenger with their gambols. Their note or cry is shrill and lively, and so much resembles that of a species of tree-frog, which frequents the same tree, that it is sometimes difficult to distinguish the one from the other.

Such are the *vicious* traits, if I may so speak, in the character of the red-headed woodpecker; and I doubt

not but, from what has been said on this subject, that some readers would consider it meritorious to exterminate the whole tribe as a nuisance: and, in fact, the legislatures of some of our provinces, in former times, offered premiums to the amount of twopence per head for their destruction.* But let us not condemn the species unheard: they exist; they must therefore be necessary. If their merits and usefulness be found, on examination, to preponderate against their vices, let us avail ourselves of the former, while we guard as well as we can against the latter.

Though this bird occasionally regales himself on fruit, yet his natural and most usual food is insects, particularly those numerous and destructive species that penetrate the bark and body of the tree to deposit their eggs and larvæ, the latter of which are well known to make immense havoc. That insects are his natural food is evident from the construction of his wedge-formed bill, the length, elasticity, and figure of his tongue, and the strength and position of his claws; as well as from his usual habits. In fact, insects form at least two-thirds of his subsistence; and his stomach is scarcely ever found without them. He searches for them with a dexterity and intelligence, I may safely say, more than human; he perceives, by the exterior appearance of the bark, where they lurk below; when he is dubious, he rattles vehemently on the outside with his bill, and his acute ear distinguishes the terrified vermin shrinking within to their inmost retreats, where his pointed and barbed tongue soon reaches them. The masses of bugs, caterpillars, and other larvæ, which I have taken from the stomachs of these birds, have often surprised me. These larvæ, it should be remembered, feed not only on the buds, leaves, and blossoms, but on the very vegetable life of the tree, the alburnum, or newly forming bark and wood; the consequence is, that whole branches and whole trees decay under the silent ravages of these destructive vermin; witness

* Kalm.

he late destruction of many hundred acres of pine rees, in the north-eastern parts of South Carolina; * and the thousands of peach trees that yearly decay from the same cause. Will any one say, that, taking half a dozen, or half a hundred, apples from a tree is equally ruinous with cutting it down? or, that the services of a useful animal should not be rewarded with

small portion of that which it has contributed to reserve? We are told, in the benevolent language of the Scriptures, not to muzzle the mouth of the ox that readeth out the corn; and why should not the same generous liberality be extended to this useful family of birds, which forms so powerful a phalanx against the roads of many millions of destructive vermin?

The red-headed woodpecker is, properly speaking, a bird of passage; though, even in the eastern states, individuals are found during moderate winters, as well as in the states of New York and Pennsylvania; in Carolina they are somewhat more numerous during hot season, but not one-tenth of what are found in summer. They make their appearance in Pennsylvania about the 1st of May, and leave us about the middle of October. They inhabit from Canada to the Gulf of Mexico, and are also found on the western coast of North America. About the middle of May they begin to construct their nests, which, like the rest of the genus, they form in the body or large limbs of trees, using in no materials, but smoothing it within to the proper shape and size. The female lays six eggs, of a pure white, marked, chiefly at the great end, with reddish spots; and the young make their first appearance about the 20th of June. During the first season the head and neck of the young birds are blackish gray, which has occasioned some European writers to mistake them for females; the white on the wing is so spotted with black; but in the succeeding spring

* In one place, on a tract of two thousand acres of pine land, on the Sampit river, near Georgetown, at least ninety trees in every hundred were destroyed by this pernicious insect: a small, black winged bug, resembling the weevil, but somewhat larger.

they receive their perfect plumage, and the male and female then differ only in the latter being rather smaller, and its colours not quite so vivid; both have the head and neck deep scarlet; the bill light blue, black towards the extremity, and strong; back, primaries, wing-coverts, and tail, black, glossed with steel-blue; rump, lower part of the back, secondaries, and whole under parts from the breast downward, white; legs and feet, bluish green; claws, light blue; round the eye, a dusky narrow skin, bare of feathers; iris, dark hazel; total length, nine inches and a half; extent, seventeen inches.

Notwithstanding the care which this bird, in common with the rest of its genus, takes to place its young beyond the reach of enemies, within the hollows of trees, yet there is one deadly foe, against whose depredations neither the height of the tree, nor the depth of the cavity, is the least security. This is the black snake (*coluber constrictor*,) who frequently glides up the trunk of the tree, and, like a skulking savage, enters the woodpecker's peaceful apartment, devours the eggs or helpless young, in spite of the cries and flutterings of the parents; and, if the place be large enough, coils himself up in the spot they occupied, where he will sometimes remain for several days. The eager school-boy, after hazarding his neck to reach the woodpecker's hole, at the triumphant moment when he thinks the nestlings his own, and strips his arm, lanching it down into the cavity, and grasping what he conceives to be the callow young, starts with horror at the sight of a hideous snake, and almost drops from his giddy pinnacle, retreating down the tree with terror and precipitation. Several adventures of this kind have come to my knowledge; and one of them that was attended with serious consequences, where both snake and boy fell to the ground; and a broken thigh, and long confinement, cured the adventurer completely of his ambition for robbing woodpécker's nests.

42. *PICUS CAROLINUS*, LINN.—RED-BELLIED WOODPECKER.

WILSON, PLATE VII. FIG. II.—EDINBURGH COLLEGE MUSEUM.

THIS species possesses all the restless and noisy habits so characteristic of its tribe. It is more shy and less domestic than the red-headed one (*P. erythrocephalus*), or any of the other spotted woodpeckers. It is also more solitary. It prefers the largest, high-timbered woods, and tallest decayed trees of the forest; seldom appearing near the ground, on the fences, or in orchards, or open fields; yet where the trees have been deadened, and stand pretty thick, in fields of Indian corn, as is common in new settlements, I have observed it to be very numerous; and have found its stomach sometimes completely filled with that grain. Its voice is hoarser than any of the others; and its usual note "chow," has often reminded me of the barking of a little lapdog. It is a most expert climber, possessing extraordinary strength in the muscles of its feet and claws, and moves about the body and horizontal limbs of the trees, with equal facility in all directions. It rattles, like the rest of the tribe, on the dead limbs,—and with such violence, as to be heard, in still weather, more than half a mile off,—and listens to hear the insects it has alarmed. In the lower side of some lofty branch that makes a considerable angle with the horizon, the male and female, in conjunction, dig out a circular cavity for their nest, sometimes out of the solid wood, but more generally into a hollow limb, twelve or fifteen inches above where it becomes solid. This is usually performed early in April. The female lays five eggs of a pure white, or almost semitransparent; and the young generally make their appearance towards the latter end of May, or beginning of June, climbing up to the higher parts of the tree, being as yet unable to fly. In this situation they are fed for several days, and often become the prey of the hawks. From seeing the old

ones continuing their caresses after this period, I believe that they often, and perhaps always, produce two broods in a season. During the greatest part of the summer, the young have the ridge of the neck and head of a dull brownish ash; and a male of the third year has received his complete colours.

The red-bellied woodpecker is ten inches in length, and seventeen in extent; the bill is nearly an inch and a half in length, wedged at the point, but not quite so much grooved as some others, strong, and of a bluish black colour; the nostrils are placed in one of these grooves, and covered with curving tufts of light brown hairs, ending in black points; the feathers on the front stand more erect than usual, and are of a dull yellowish red; from thence, along the whole upper part of the head and neck, down the back, and spreading round to the shoulders, is of the most brilliant golden glossy red; the whole cheeks, line over the eye, and under side of the neck, is a pale buff colour, which, on the breast and belly, deepens into a yellowish ash, stained on the belly with a blood red; the vent and thigh feathers are dull white, marked down their centres with heart-formed and long arrow-pointed spots of black. The back is black, crossed with transverse curving lines of white; the wings are also black; the lesser wing-coverts circularly tipped, and the whole primaries and secondaries beautifully crossed with bars of white, and also tipped with the same; the rump is white, interspersed with touches of black; the tail-coverts, white near the extremities; the tail consists of ten feathers, the two middle ones black, their interior webs or vanes white, crossed with diagonal spots of black; these, when the edges of the two feathers just touch, coincide, and form heart-shaped spots; a narrow sword-shaped line of white runs up the exterior side of the shafts of the same feathers; the next four feathers, on each side, are black; the outer edges of the exterior ones, barred with black and white, which, on the lower side, seems to cross the whole vane; the extremities of the whole tail, except the outer feather, are black,

sometimes touched with yellowish or cream colour; the legs and feet are of a bluish green, and the iris of the eye red. The tongue, or os hyoides, passes up over the hind head, and is attached, by a very elastic retractile membrane, to the base of the right nostril; the extremity of the tongue is long, horny, very pointed, and thickly edged with barbs, the other part of the tongue is worm-shaped. In several specimens, I found the stomach nearly filled with pieces of a species of fungus, that grows on decayed wood, and, in all, with great numbers of insects, seeds, gravel, &c. The female differs from the male in having the crown, for an inch, of a fine ash, and the black not so intense; the front is reddish as in the male, and the whole hind head, down to the back, likewise of the same rich red as his. In the bird, from which this latter description was taken, I found a large cluster of minute eggs, to the number of fifty, or upwards, in the beginning of the month of March.

This species inhabits a large extent of country, in all of which it seems to be resident, or nearly so. I found them abundant in Upper Canada, and in the northern parts of the state of New York, in the month of November; they also inhabit the whole Atlantic states as far as Georgia, and the southern extremity of Florida, as well as the interior parts of the United States, as far west as Chillicothe, in the state of Ohio, and, according to Buffon, Louisiana. They are said to be the only woodpeckers found in Jamaica; though I question whether this be correct; and to be extremely fond of the capsicum, or Indian pepper.* They are certainly much hardier birds, and capable of subsisting on coarser and more various fare, and of sustaining a greater degree of cold, than several other of our woodpeckers. They are active and vigorous; and, being almost continually in search of insects that injure our forest trees, do not seem to deserve the injurious epithets that almost all writers have given them. It is true, they

* Sloane.

frequently perforate the timber in pursuit of these vermin, but this is almost always in dead and decaying parts of the tree, which are the nests and nurseries of millions of destructive insects. Considering matters in this light, I do not think their services overpaid by all the ears of Indian corn they consume; and would protect them, within my own premises, as being more useful than injurious.

43. *PICUS VARIUS*, LINNÆUS. — YELLOW-BELLIED WOODPECKER.

WILSON, PL. IX. FIG. II. — ADULT MALE. — EDINBURGH COLLEGE MUSEUM.

THIS beautiful species is one of our resident birds. It visits our orchards in the month of October in great numbers, is occasionally seen during the whole winter and spring, but seems to seek the depths of the forest, to rear its young in; for during summer it is rarely seen among our settlements; and even in the intermediate woods I have seldom met with it in that season. According to Brisson it inhabits the continent from Cayenne to Virginia; and I may add, as far as to Hudson's Bay, where, according to Hutchins, they are called *Meksewe Paupastuow*,* they are also common in the states of Kentucky and Ohio, and have been seen in the neighbourhood of St Louis. They are reckoned by Georgi among the birds that frequent the Lake Baikal, in Asia,† but their existence there has not been satisfactorily ascertained.

The habits of this species are similar to those of the hairy and downy woodpeckers, with which it generally associates. The only nest of this bird which I have met with was in the body of an old pear-tree, about ten or eleven feet from the ground. The hole was almost exactly circular, small for the size of the bird, so that it crept in and out with difficulty; but suddenly widened, descending by a small angle and then rounding

* Latham.

† Ibid.

downward about fifteen inches. On the smooth solid wood lay four white eggs. This was about the 25th of May. Having no opportunity of visiting it afterwards I cannot say whether it added any more eggs to the number; I rather think it did not, as it appeared at that time to be sitting.

The yellow-bellied woodpecker is eight inches and a half long, and in extent fifteen inches; whole crown, a rich and deep scarlet, bordered with black on each side, and behind forming a slight crest, which it frequently erects;* from the nostrils, which are thickly covered with recumbent hairs, a narrow strip of white runs downward, curving round the breast, mixing with the yellowish white on the lower part of the breast; throat, the same deep scarlet as the crown, bordered with black, proceeding from the lower mandible on each side, and spreading into a broad rounding patch on the breast; this black, in birds of the first and second year, is dusky gray, the feathers being only crossed with circular touches of black; a line of white, and below it another of black, proceed, the first from the upper part of the eye, the other from the posterior half of the eye, and both lose themselves on the neck and back; back, dusky yellow, sprinkled and elegantly waved with black; wings, black, with a large oblong spot of white; the primaries, tipped and spotted with white; the three secondaries next the body are also variegated with white; rump, white, bordered with black; belly, yellow; sides under the wings, more dusky yellow, marked with long arrow-heads of black; legs and feet, greenish blue; tail, black, consisting of ten feathers, the two outward feathers on each side tipped with white, the next totally black, the fourth edged on its inner vane half way down with white, the middle one white on its interior vane, and spotted with black; tongue, flat, horny for half an inch at the tip, pointed, and armed along its sides with reflected barbs; the other extremities of the tongue pass up behind the

* This circumstance seems to have been overlooked by naturalists.

skull in a groove, and end near the right nostril; in birds of the first and second year they reach only to the crown; bill, an inch long, channelled, wedge-formed at the tip, and of a dusky horn colour. The female is marked nearly as the male, but wants the scarlet on the throat, which is whitish; she is also darker under the wings and on the sides of the breast. The young of the first season, of both sexes, in October, have the crown sprinkled with black and deep scarlet; the scarlet on the throat may be also observed in the young males. The principal food of these birds is insects; and they seem particularly fond of frequenting orchards, boring the trunks of the apple trees in their eager search after them. On opening them, the liver appears very large, and of a dirty gamboge colour; the stomach strongly muscular, and generally filled with fragments of beetles and gravel. In the morning they are extremely active in the orchards, and rather shy than the rest of their associates. Their cry is also different, but, though it is easily distinguishable in the woods, cannot be described by words.

44. *PICUS VILLOsus*, LINNÆUS. — HAIRY WOODPECKER.

WILSON, PL. IX. FIG. III. MALE. — EDINBURGH COLLEGE MUSEUM.

THIS is another of our resident birds, and, like the former, a hunter of orchards and borer of apple trees, an eager hunter of insects, their eggs and larvæ in old stumps and old rails, in rotten branches and crevices of the bark; having all the characters of the woodpecker strongly marked. In the month of May he retires with his mate to the woods, and either seeks out a branch already hollow, or cuts out an opening for himself. In the former case I have known his nest more than five feet distant from the mouth of the hole; and in the latter he digs first horizontally, if in the body of the tree, six or eight inches, and then downward, obtusely, for twice that distance; carrying up

the chips with his bill, and scraping them out with his feet. They also not unfrequently choose the orchard for breeding in, and even an old stake of the fence, which they excavate for this purpose. The female lays five white eggs, and hatches in June. This species is more numerous than the last in Pennsylvania, and more domestic; frequently approaching the farm-house and skirts of the town. In Philadelphia I have many times observed them examining old ragged trunks of the willow and poplar while people were passing immediately below. Their cry is strong, shrill, and tremulous; they have also a single note or *chuck*, which they often repeat, in an eager manner, as they hop about, and dig into the crevices of the tree. They inhabit the continent from Hudson's Bay to Carolina and Georgia.

The hairy woodpecker is nine inches long, and fifteen in extent; crown, black; line over and under the eye, white; the eye is placed in a black line, that widens as it descends to the back; hind head, scarlet, sometimes intermixed with black; nostrils hid under remarkably thick, bushy, recumbent hairs or bristles; under the bill are certain long hairs thrown forward and upward; bill, a bluish horn colour, grooved, wedged at the end, straight, and about an inch and a quarter long; touches of black, proceeding from the lower mandible, end in a broad black strip that joins the black on the shoulder; back, black, divided by a broad lateral strip of white, the feathers composing which are loose and unwebbed, resembling hairs, whence its name; rump and shoulders of the wing, black; wings, black, tipped and spotted with white, three rows of spots being visible on the secondaries, and five on the primaries; greater wing-coverts also spotted with white; tail, as in the others, cuneiform, consisting of ten strong-shafted and pointed feathers, the four middle ones black, the next partially white, the two exterior ones white, tinged at the tip with a brownish burnt colour; tail-coverts, black; whole lower side, pure white; legs, feet, and claws, light blue, the latter remarkably large and strong; inside

of the mouth, flesh coloured; tongue, pointed, beset with barbs, and capable of being protruded more than an inch and a half; the os hyoides, in this species, passes on each side of the neck, ascends the skull, passes down towards the nostril, and is wound round the bone of the right eye, which projects considerably more than the left for its accommodation. The great mass of hairs that cover the nostril, appears to be designed as a protection to the front of the head, when the bird is engaged in digging holes into the wood. The membrane which encloses the brain in this, as in all the other species of woodpeckers, is also of extraordinary strength, no doubt to prevent any bad effects from violent concussion while the bird is employed in digging for food. The female wants the red on the hind head; and the white below is tinged with brownish. The manner of flight of these birds has been already described under a former species, as consisting of alternate risings and sinkings. The hairy woodpeckers generally utter a loud tremulous scream as they set off, and when they alight. They are hard to kill; and, like the red-headed woodpecker, hang by the claws, even of a single foot, as long as a spark of life remains, before they drop.

This species is common at Hudson's Bay; and has lately been found in England. Dr Latham examined a pair which were shot near Halifax, in Yorkshire; and on comparing the male with one brought from North America, could perceive no difference, but in a slight interruption of the red that marked the hind head of the former; a circumstance which I have frequently observed in our own. The two females corresponded exactly.

45. *PICUS PUBESCENS*, LINNÆUS. — DOWNY WOODPECKER.

WILSON, PLATE IX. FIG. IV. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS is the smallest of our woodpeckers, and so exactly resembles the former in its tints and markings, and in almost every thing except its diminutive size, that I wonder how it passed through the Count de Buffon's hands without being branded as a "spurious race, degenerated by the influence of food, climate, or some unknown cause." But, though it has escaped this infamy, charges of a much more heinous nature have been brought against it, not only by the writer above mentioned, but by the whole venerable body of zoologists in Europe, who have treated of its history, viz. that it is almost constantly boring and digging into apple-trees; and that it is the most destructive of its whole genus to the orchards. The first part of this charge I shall not pretend to deny; how far the other is founded in truth will appear in the sequel. Like the two former species, it remains with us the whole year. About the middle of May, the male and female look out for a suitable place for the reception of their eggs and young. An apple, pear, or cherry-tree, often in the near neighbourhood of the farm-house, is generally pitched upon for this purpose. The tree is minutely reconnoitred for several days previous to the operation, and the work is first begun by the male, who cuts out a hole in the solid wood as circular as *f* described with a pair of compasses. He is occasionally relieved by the female, both parties working with the most indefatigable diligence. The direction of the hole, if made in the body of the tree, is generally downwards, by an angle of thirty or forty degrees, for the distance of six or eight inches, and then straight down for ten or twelve more; within roomy, capacious, and as smooth as if polished by the cabinetmaker; but the entrance is judiciously left just so large as to admit the bodies of the owners. During this labour, they regu-

larly carry out the chips, often strewing them at a distance to prevent suspicion. This operation sometimes occupies the chief part of a week. Before she begins to lay, the female often visits the place, passes out and in, examines every part both of the exterior and interior, with great attention, as every prudent tenant of a new house ought to do, and at length takes complete possession. The eggs are generally six, pure white, and laid on the smooth bottom of the cavity. The male occasionally supplies the female with food while she is sitting; and about the last week in June the young are perceived making their way up the tree, climbing with considerable dexterity. All this goes on with great regularity where no interruption is met with; but the house wren, who also builds in the hollow of a tree, but who is neither furnished with the necessary tools nor strength for excavating such an apartment for himself, allows the woodpeckers to go on, till he thinks it will answer his purpose, then attacks them with violence, and generally succeeds in driving them off. I saw some weeks ago a striking example of this, where the woodpeckers we are now describing, after commencing in a cherry-tree within a few yards of the house, and having made considerable progress, were turned out by the wren; the former began again on a pear-tree in the garden, fifteen or twenty yards off, whence, after digging out a most complete apartment, and one egg being laid, they were once more assaulted by the same impertinent intruder, and finally forced to abandon the place.

- The principal characteristics of this little bird are diligence, familiarity, perseverance, and a strength and energy in the head and muscles of the neck, which are truly astonishing. Mounted on the infected branch of an old apple-tree, where insects have lodged their corroding and destructive brood in crevices between the bark and wood, he labours sometimes for half an hour incessantly at the same spot, before he has succeeded in dislodging and destroying them. At these times you may walk up pretty close to the tree, and even stand

immediately below it, within five or six feet of the bird, without in the least embarrassing him; the strokes of his bill are distinctly heard several hundred yards off; and I have known him to be at work for two hours together on the same tree. Buffon calls this "incessant toil and slavery," their attitude "a painful posture," and their life "a dull and insipid existence;" expressions improper, because untrue; and absurd, because contradictory. The posture is that for which the whole organization of his frame is particularly adapted; and though, to a wren or a humming-bird, the labour would be both toil and slavery, yet to him it is, I am convinced, as pleasant and as amusing, as the sports of the chase to the hunter, or the sucking of flowers to the humming-bird. The eagerness with which he traverses the upper and lower sides of the branches; the cheerfulness of his cry, and the liveliness of his motions while digging into the tree and dislodging the vermin, justify this belief. He has a single note, or *chink*, which, like the former species, he frequently repeats. And when he flies off, or alights on another tree, he utters a rather shriller cry, composed of nearly the same kind of note, quickly reiterated. In fall and winter, he associates with the titmouse, creeper, &c. both in their wood and orchard excursions; and usually leads the van. Of all our woodpeckers, none rid the apple-trees of so many vermin as this, digging off the moss which the negligence of the proprietor had suffered to accumulate, and probing every crevice. In fact, the orchard is his favourite resort in all seasons; and his industry is unequalled, and almost incessant, which is more than can be said of any other species we have. In fall, he is particularly fond of boring the apple-trees for insects, digging a circular hole through the bark just sufficient to admit his bill, after that a second, third, &c. in pretty regular horizontal circles round the body of the tree; these parallel circles of holes are often not more than an inch or an inch and a half apart, and sometimes so close together, that I have covered eight or ten of them at once with a dollar. From

nearly the surface of the ground up to the first fork, and sometimes far beyond it, the whole bark of many apple-trees is perforated in this manner, so as to appear as if made by successive discharges of buck-shot; and our little woodpecker, the subject of the present account, is the principal perpetrator of this supposed mischief, — I say supposed, for so far from these perforations of the bark being ruinous, they are not only harmless, but, I have good reason to believe, really beneficial to the health and fertility of the tree. I leave it to the philosophical botanist to account for this; but the fact I am confident of. In more than fifty orchards which I have myself carefully examined, those trees which were marked by the woodpecker (for some trees they never touch, perhaps because not penetrated by insects,) were uniformly the most thriving, and seemingly the most productive; many of these were upwards of sixty years old, their trunks completely covered with holes, while the branches were broad, luxuriant, and loaded with fruit. Of decayed trees, more than three-fourths were untouched by the woodpecker. Several intelligent farmers, with whom I have conversed, candidly acknowledge the truth of these observations, and with justice look upon these birds as beneficial; but the most common opinion is, that they bore the trees to suck the sap, and so destroy its vegetation; though pine and other resinous trees, on the juices of which it is not pretended they feed, are often found equally perforated. Were the sap of the tree their object, the saccharine juice of the birch, the sugar maple, and several others, would be much more inviting, because more sweet and nourishing than that of either the pear or apple-tree; but I have not observed one mark on the former for ten thousand that may be seen on the latter; besides, the early part of spring is the season when the sap flows most abundantly; whereas it is only during the months of September, October, and November, that woodpeckers are seen so indefatigably engaged in orchards, probing every crack and crevice, boring through the bark, and

what is worth remarking, chiefly on the south and southwest sides of the tree, for the eggs and larvæ deposited there by the countless swarms of summer insects. These, if suffered to remain, would prey upon the very vitals, if I may so express it, of the tree, and in the succeeding summer give birth to myriads more of their race, equally destructive.

Here, then, is a whole species, I may say, genus, of birds, which Providence seems to have formed for the protection of our fruit and forest trees from the ravages of vermin, which every day destroy millions of those noxious insects that would otherwise blast the hopes of the husbandman ; and which even promote the fertility of the tree ; and, in return, are proscribed by those who ought to have been their protectors ; and incitements and rewards held out for their destruction ! Let us examine better into the operations of nature, and many of our mistaken opinions and groundless prejudices will be abandoned for more just, enlarged, and humane modes of thinking.

The length of the downy woodpecker is six inches and three quarters, and its extent twelve inches ; crown, black ; hind head, deep scarlet ; stripe over the eye, white ; nostrils, thickly covered with recumbent hairs, or small feathers, of a cream colour ; these, as in the preceding species, are thick and bushy, as if designed to preserve the forehead from injury during the violent action of digging ; the back is black, and divided by a lateral strip of white, loose, downy, unwebbed feathers ; wings, black, spotted with white ; tail-coverts, rump, and four middle feathers of the tail, black ; the other three on each side, white, crossed with touches of black ; whole under parts, as well as the sides of the neck, white ; the latter marked with a streak of black, proceeding from the lower mandible, exactly as in the hairy woodpecker ; legs and feet, bluish green ; claws, light blue, tipped with black ; tongue, formed like that of the preceding species, horny towards the tip, where, for one-eighth of an inch, it is barbed ; bill, of a bluish horn colour, grooved, and wedge-formed, like most of the

genus; eye, dark hazel. The female wants the red on the hind head, having that part white; and the breast and belly are of a dirty white.

This, and the two former species, are generally denominated *sap-suckers*. They have also several other provincial appellations, equally absurd, which it may, perhaps, be more proper to suppress than to sanction by repeating.

46. *PICUS QUERULUS*, WILSON. — RED-COCKADED WOODPECKER.

WILSON, PLATE XV. FIG. 1.

THIS new species I first discovered in the pine woods of North Carolina. The singularity of its voice, which greatly resembles the chirping of young nestlings, and the red streak on the side of its head, suggested the specific name I have given it. It also extends through South Carolina and Georgia, at least, as far as the Altamaha river. Observing the first specimen I found, to be so slightly marked with red, I suspected it to be a young bird, or imperfect in its plumage; but, the great numbers I afterwards shot, satisfied me that this is a peculiarity of the species. It appeared exceedingly restless, active, and clamorous; and every where I found its manners the same.

This bird seems to be an intermediate link between the red-bellied and the hairy woodpecker. It has the back of the former, and the white belly and spotted neck of the latter; but wants the breadth of red in both, and is less than either.

This woodpecker is seven inches and a half long, and thirteen broad; the upper part of the head is black; the back barred with twelve white transversely semi-circular lines, and as many of black, alternately; the cheeks and sides of the neck are white; whole lower parts the same; from the lower mandible, a list of black passes towards the shoulder of the wing, where it is lost in small black spots on each side of the breast; the

wings are black, spotted with white; the four middle tail feathers, black; the rest white, spotted with black; rump, black, variegated with white; the vent, white, spotted with black; the hairs that cover the nostrils are of a pale cream colour; the bill, deep slate. But, what forms the most distinguishing peculiarity of this bird, is a fine line of vermilion on each side of the head, seldom occupying more than the edge of a single feather. The female is destitute of this ornament; but, in the rest of her plumage, differs in nothing from the male. The iris of the eye, in both, was hazel.

The stomachs of all those I opened were filled with small black insects, and fragments of large beetles. The posterior extremities of the tongue reached nearly to the base of the upper mandible.

47. *PICUS TORQUATUS*, WILSON. — LEWIS'S WOODPECKER.

WILSON, PLATE XX. FIG. III.

THIS bird, and one or two others which will afterwards be given,* were discovered in the remote regions of Louisiana, by an exploring party, under the command of Captain George Merriwether Lewis, and Lieutenant, now General, William Clark, in their memorable expedition across the continent to the Pacific Ocean. These birds are entitled to a distinguished place in the pages of AMERICAN ORNITHOLOGY, both as being, till now, altogether unknown to naturalists, and as natives of what *is*, or, at least *will be*, and that at no distant period, part of the western territory of the United States.

Of this very beautiful and singularly marked species, I am unable to give any farther account than as relates to its external appearance. Several skins of this species were preserved, all of which I examined with care, and found little or no difference among them, either in the tints or disposition of the colours.

* These are *Clark's Crow*, and the *Louisiana Tanager*.

The length of this was eleven inches and a half; the back, wings, and tail were black, with a strong gloss of green; upper part of the head, the same; front, chin, and cheeks, beyond the eyes, a dark rich red; round the neck passes a broad collar of white, which spreads over the breast, and looks as if the fibres of the feathers had been silvered: these feathers are also of a particular structure, the fibres being separate, and of a hair-like texture; belly, deep vermilion, and of the same strong hair-like feathers, intermixed with silvery ones; vent, black; legs and feet, dusky, inclining to greenish blue; bill, dark horn colour.

For a more particular, and doubtless a more correct account of this and the others, the reader is referred to General Clark's History of the Expedition. The three birds I shall introduce, are but a small part of the valuable collection of new subjects in natural history, discovered and preserved, amidst a thousand dangers and difficulties by these two enterprizing travellers, whose intrepidity was only equalled by their discretion, and by their active and laborious pursuit of whatever might tend to render their journey useful to science and to their country. It was the request and particular wish of Captain Lewis, made to me in person, that I should make drawings of such of the feathered tribes as had been preserved, and were new. That brave soldier, that amiable and excellent man, over whose solitary grave in the wilderness I have since shed tears of affliction, having been cut off in the prime of his life, I hope I shall be pardoned for consecrating this humble note to his memory, until a more able pen shall do better justice to the subject.

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TRIBE II.

AMBULATOIRES, ILLIGER.

FAMILY VI.

ANGULIROSTRES, ILLIGER.

GENUS VII. — *ALCEDO*, LINNÆUS.

48. *ALCEDO ALCYON*, LINNÆUS. — BELTED KINGFISHER.

WILSON, PL. XXIII. FIG. 1. — FEMALE. — EDINBURGH COLLEGE MUSEUM.

THIS is a general inhabitant of the banks and shores of all our fresh water rivers, from Hudson's Bay to Mexico; and is the only species of its tribe found within the United States. This last circumstance, and its characteristic appearance, make it as universally known here, as its elegant little brother, the common kingfisher of Europe, is in Britain. Like the love-lorn swains, of whom poets tell us, he delights in murmuring streams and falling waters; not, however, merely that they may sooth his ear, but for a gratification somewhat more substantial. Amidst the roar of the cataract, or over the foam of a torrent, he sits perched upon an overhanging bough, glancing his piercing eye in every direction below for his scaly prey, which, with a sudden circular plunge, he sweeps from their native element, and swallows in an instant. His voice, which is not unlike the twirling of a watchman's rattle, is naturally loud, harsh, and sudden; but is softened by the sound of the brawling streams and cascades among which he generally rambles. He courses along the windings of the brook or river, at a small height above the surface, sometimes suspending himself by the rapid action of his wings, like certain

species of hawks, ready to pounce on the fry below ; now and then settling on an old dead overhanging limb to reconnoitre. Mill-dams are particularly visited by this feathered fisher ; and the sound of his pipe is as well known to the miller, as the rattling of his own hopper. Rapid streams, with high perpendicular banks, particularly if they be of a hard clayey, or sandy nature, are also favourite places of resort for this bird ; not only because in such places the small fish are more exposed to view, but because those steep and dry banks are the chosen situations for his nest. Into these he digs with bill and claws horizontally, sometimes to the extent of

- four or five feet, at the distance of a foot or two from the surface. The few materials he takes in are not always placed at the extremity of the hole, that he and his mate may have room to turn with convenience. The eggs are five, pure white, and the first brood usually comes out about the beginning of June, and sometimes sooner, according to that part of the country where they reside. On the shores of Kentucky river, near the town of Frankfort, I found the female sitting early in April. They are very tenacious of their haunts, breeding for several successive years in the same hole, and do not readily forsake it, even though it be visited. An intelligent young gentleman informed me, that having found where a kingfisher built, he took away its eggs from time to time, leaving always one behind, until he had taken no less than eighteen from the same nest. At some of these visits, the female, being within, retired to the extremity of the hole, while he withdrew the egg, and next day, when he returned, he found she had laid again as usual.

- The fabulous stories related by the ancients of the nest, manner of hatching, &c. of the kingfisher, are too trifling to be repeated here. Over the winds and the waves the humble kingfishers of our days, at least the species now before us, have no control. Its nest is neither constructed of glue nor fish bones ; but of loose grass and a few feathers. It is not thrown on the surface of the water to float about, with its proprietor,

at random, but snugly secured from the winds and the weather in the recesses of the earth; neither is its head or its feathers believed, even by the most illiterate of our clowns or seamen, to be a charm for love, a protection against witchcraft, or a security for fair weather. It is neither venerated, like those of the Society Isles, nor dreaded, like those of some other countries; but is considered merely as a bird that feeds on fish; is generally fat; relished by *some* as good eating; and is now and then seen exposed for sale in our markets.

Though the kingsfisher generally remains with us, in Pennsylvania, until the commencement of cold weather, it is seldom seen here in winter; but returns to us early in April. In North and South Carolina, I observed numbers of these birds in the months of February and March. I also frequently noticed them on the shores of the Ohio, in February, as high up as the mouth of the Muskingum.

I suspect this bird to be a native of the Bahama Islands, as well as of our continent. In passing between these isles and the Florida shore, in the month of July, a kingsfisher flew several times round our ship, and afterwards shot off to the south.

The length of this species is twelve inches and a half, extent twenty; back and whole upper parts, a light bluish slate colour; round the neck is a collar of pure white, which reaches before to the chin; head, large, crested; the feathers, long and narrow, black in the centre, and generally erect; the shafts of all the feathers, except the white plumage, are black; belly and vent, white; sides under the wings, variegated with blue; round the upper part of the breast passes a band of blue, interspersed with some light brown feathers; before the eye is a small spot of white, and another immediately below it; the bill is three inches long from the point to the slit of the mouth, strong, sharp-pointed, and black, except near the base of the lower mandible, and at the tip, where it is of a horn colour; primaries and interior webs of the secondaries, black, spotted

with white; the interior vanes of the tail feathers, elegantly spotted with white on a jet black ground; lower side, light coloured; exterior vanes, blue; wing-coverts and secondaries, marked with small specks of white; legs, extremely short; when the bird perches, it generally rests on the lower side of the second joint, which is thereby thick and callous; claws, stout and black; whole leg, of a dirty yellowish colour; above the knee, bare of feathers for half an inch; the two exterior toes united together for nearly their whole length.

The female is sprinkled all over with specks of white; the band of blue around the upper part of the breast is nearly half reddish brown; and a little below this, passes a band of bright reddish bay, spreading on each side under the wings. The blue and rufous feathers on the breast are strong, like scales. The head is also of a much darker blue than the back, and the white feathers on the chin and throat of an exquisite fine glossy texture, like the most beautiful satin.

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FAMILY VII.

GREGARII, ILLIGER.

GENUS VIII.—*STURNUS*, LINNÆUS.

49. *STURNUS LUDOVICIANUS*, LINN.—*ALAUDA MAGNA*, WILSON.

MEADOW LARK.

WILSON, PLATE XIX. FIG. II. — EDINBURGH COLLEGE MUSEUM.

THOUGH this well known species cannot boast of the powers of song which distinguish that “harbinger of day,” the sky lark of Europe, yet in richness of plumage, as well as in sweetness of voice, (as far as his few notes extend,) he stands eminently its superior. He differs from the greater part of his tribe in wanting the long straight hind claw, which is probably the reason why he has been classed, by some naturalists, with the starlings. But, in the particular form of his bill, in his manners, plumage, mode and place of building his nest, nature has clearly pointed out his proper family.

This species has a very extensive range; having myself found them in Upper Canada, and in each of the States from New Hampshire to New Orleans. Mr Bartram also informs me, that they are equally abundant in East Florida. Their favourite places of retreat are pasture fields and meadows, particularly the latter, which have conferred on them their specific name; and no doubt supplies them abundantly with the particular seeds and insects on which they feed. They are rarely or never seen in the depth of the woods; unless where, instead of underwood, the ground is covered with rich grass, as in the Chactaw and Chickasaw countries, where I met with them in considerable numbers in the months of May and June. The extensive and luxuriant prairies between Vincennes and St Louis also abound with them.

It is probable that, in the more rigorous regions of

the north, they may be birds of passage, as they are partially so here ; though I have seen them among the meadows of New Jersey, and those that border the rivers Delaware and Schuylkill, in all seasons ; even when the ground was deeply covered with snow. There is scarcely a market day in Philadelphia, from September to March, but they may be found in market. They are generally considered, for size and delicacy, little inferior to the quail, or what is here usually called the partridge, and valued accordingly. I once met with a few of these birds in the month of February, during a deep snow, among the heights of the Alleghany, between Shippensburg and Somerset, gleaning on the road, in company with the small snow-birds. In the State of South Carolina and Georgia, at the same season of the year, they swarm among the rice plantations, running about the yards and out-houses, accompanied by the killdeers, with little appearance of fear, as if quite domesticated.

These birds, after the building season is over, collect in flocks ; but seldom fly in a close compact body ; their flight is something in the manner of the grouse and partridge, laborious and steady, sailing, and renewing the rapid action of the wings alternately. When they alight on trees or bushes, it is generally on the tops of the highest branches, whence they send forth a long, clear, and somewhat melancholy note, that, in sweetness and tenderness of expression, is not surpassed by any of our numerous warblers. This is sometimes followed by a kind of low, rapid chattering, the particular call of the female ; and again the clear and plaintive strain is repeated as before. They afford tolerably good amusement to the sportsman, being most easily shot while on the wing ; as they frequently squat among the long grass, and spring within gunshot. The nest of this species is built generally in, or below, a thick tuft, or tussock of grass ; it is composed of dry grass, and fine bent laid at bottom, and wound all around, leaving an arched entrance level with the ground ; the inside is lined with fine stalks of the same materials, disposed

with great regularity. The eggs are four, sometimes five, white, marked with specks, and several large blotches of reddish brown, chiefly at the thick end. Their food consists of caterpillars, grub worms, beetles, and grass seeds, with a considerable proportion of gravel. Their general name is the meadow lark; among the Virginians, they are usually called the old field lark.

The length of this bird is ten inches and a half, extent, sixteen and a half; throat, breast, belly, and line from the eye to the nostrils, rich yellow; inside lining and edge of the wing, the same; an oblong crescent of deep velvety black ornaments the lower part of the throat; lesser wing-coverts, black, broadly bordered with pale ash; rest of the wing feathers, light brown, handsomely serrated with black; a line of yellowish white divides the crown, bounded on each side by a stripe of black, intermixed with bay, and another line of yellowish white passes over each eye, backwards; cheeks, bluish white; back, and rest of the upper parts, beautifully variegated with black, bright bay, and pale ochre; tail wedged, the feathers neatly pointed, the four outer ones on each side, nearly all white; sides, thighs, and vent, pale yellow ochre, streaked with black; upper mandible, brown; lower, bluish white; eyelids, furnished with strong black hairs; legs and feet, very large, and of a pale flesh colour.

The female has the black crescent more skirted with gray, and not of so deep a black. In the rest of her markings, the plumage differs little from that of the male. I must here take notice of a mistake committed by Mr Edwards in his *History of Birds*, vol. vi, p. 123, where, on the authority of a bird dealer of London, he describes the calandre lark, (a native of Italy and Russia,) as belonging also to North America, and having been brought from Carolina. I can say with confidence, that, in all my excursions through that and the rest of the southern States, I never met such a bird, nor any person who had ever seen it. I have no hesitation in believing, that the calandre is not a native of the United States.

GENUS IX. — *ICTERUS*, BRISSON.SUBGENUS II. — *ICTERUS*.50. *ICTERUS BALTIMORUS*, DAUDET. — *ORIOLE BALTIMORUS*, WILSON.

BALTIMORE BIRD, OR ORIOLE.

WILSON, PL. I. FIG. III. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS is a bird of passage, arriving in Pennsylvania, from the south, about the beginning of May, and departing towards the latter end of August, or beginning of September. From the singularity of its colours, the construction of its nest, and its preferring the apple trees, weeping willows, walnut and tulip trees adjoining the farm house, to build on, it is generally known, and, as usual, honoured with a variety of names, such as hang-nest, hanging-bird, golden robin, fire bird, (from the bright orange seen through the green leaves, resembling a flash of fire,) &c. but more generally the Baltimore bird, so named, as Catesby informs us, from its colours, which are black and orange, being those of the arms or livery of Lord Baltimore, formerly proprietary of Maryland.

The Baltimore oriole is seven inches in length; bill almost straight, strong, tapering to a sharp point, black, and sometimes lead coloured, above, the lower mandible light blue towards the base. Head, throat, upper part of the back and wings, black; lower part of the back, rump, and whole under parts, a bright orange, deepening into vermilion on the breast; the black on the shoulders is also divided by a band of orange; exterior edges of the greater wing-coverts, as well as the edges of the secondaries, and part of those of the primaries, white; the tail feathers under the coverts, orange; the two middle ones, from thence to the tips, are black, the next five, on each side, black near the coverts, and

orange towards the extremities, so disposed, that when the tail is expanded, and the coverts removed, the black appears in the form of a pyramid, supported on an arch of orange. Tail slightly forked, the exterior feather on each side, a quarter of an inch shorter than the others; legs and feet, light blue, or lead colour; iris of the eye, hazel.

The female has the head, throat, upper part of the neck and back, of a dull black, each feather being skirted with olive yellow; lower part of the back, rump, upper tail-coverts, and whole lower parts, orange yellow, but much duller than that of the male; the whole wing feathers are of a deep dirty brown, except the quills, which are exteriorly edged, and the greater wing-coverts, and next superior row, which are broadly tipped with a dull yellowish white; tail, olive yellow; in some specimens, the two middle feathers have been found partly black, in others wholly so; the black on the throat does not descend so far as in the male, is of a lighter tinge, and more irregular; bill, legs, and claws, light blue.

Buffon and Latham, have both described the male of the bastard Baltimore, (*oriolus spurius*,) as the female Baltimore. Mr Pennant has committed the same mistake; and all the ornithologists of Europe, with whose works I am acquainted, who have undertaken to figure and describe these birds, have mistaken the proper males and females, and confounded the two species together in a very confused and extraordinary manner, for which, indeed, we ought to pardon them, on account of their distance from the native residence of these birds, and the strange alterations of colour which the latter are subject to.

This obscurity I have endeavoured to clear up in the plate containing the male and female of the *oriolus spurius* in their different changes of dress, as well as in their perfect plumage; and by introducing representations of the eggs of both, have, I hope, put the identity of these two species beyond all future dispute or ambiguity.

Almost the whole genus of orioles belong to America, and, with a few exceptions, build pensile nests. Few of them, however, equal the Baltimore in the construction of these receptacles for their young, and in giving them, in such a superior degree, convenience, warmth, and security. For these purposes he generally fixes on the high bending extremities of the branches, fastening strong strings of hemp or flax round two forked twigs, corresponding to the intended width of the nest; with the same materials, mixed with quantities of loose tow, he interweaves or fabricates a strong firm kind of cloth, not unlike the substance of a hat in its raw state, forming it into a pouch of six or seven inches in depth, lining it substantially with various soft substances, well interwoven with the outward netting, and, lastly, finishes with a layer of horse hair; the whole being shaded from the sun and rain by a natural pent-house, or canopy of leaves. As to a hole being left in the side for the young to be fed and void their excrements through, as Pennant and others relate, it is certainly an error: I have never met with any thing of the kind in the nest of the Baltimore.

Though birds of the same species have, generally speaking, a common form of building, yet, contrary to the usually received opinion, they do not build exactly in the same manner. As much difference will be found in the style, neatness, and finishing of the nests of the Baltimores, as in their voices. Some appear far superior workmen to others: and probably age may improve them in this, as it does in their colours. I have a number of their nests now before me, all completed, and with eggs. One of these, the neatest, is in the form of a cylinder, of five inches diameter, and seven inches in depth, rounded at bottom. The opening at top is narrowed, by a horizontal covering, to two inches and a half in diameter. The materials are flax, hemp, tow, hair, and wool, woven into a complete cloth; the whole tightly sewed through and through with long horse hairs, several of which measure two feet in length. The bottom is composed of thick tufts of cow hair,

sewed also with strong horse hair. This nest was hung on the extremity of the horizontal branch of an apple tree, fronting the southeast, was visible a hundred yards off, though shaded from the sun; and was the work of a very beautiful and perfect bird. The eggs are five, white, slightly tinged with flesh colour, marked on the greater end with purple dots, and on the other parts with long hair-like lines, intersecting each other in a variety of directions. I am thus minute in these particulars, from a wish to point out the specific difference between the true and bastard Baltimore, which Dr Latham, and some others, suspect to be only the same bird in different stages of colour.

So solicitous is the Baltimore to procure proper materials for his nest, that, in the season of building, the women in the country are under the necessity of narrowly watching their thread that may chance to be out bleaching, and the farmer to secure his young grafts; as the Baltimore, finding the former, and the strings which tie the latter, so well adapted for his purpose, frequently carries off both; or, should the one be over heavy, and the other too firmly tied, he will tug at them a considerable time before he gives up the attempt. Skeins of silk and hanks of thread have been often found, after the leaves were fallen, hanging round the Baltimore's nest; but so woven up, and entangled, as to be entirely irreclaimable. Before the introduction of Europeans, no such material could have been obtained here; but, with the sagacity of a good architect, he has improved this circumstance to his advantage; and the strongest and best materials are uniformly found in those parts by which the whole is supported.

Their principal food consists of caterpillars, beetles, and bugs, particularly one of a brilliant glossy green, fragments of which I have almost always found in their stomach, and sometimes these only.

The song of the Baltimore is a clear mellow whistle, repeated at short intervals as he gleans among the branches. There is in it a certain wild plaintiveness and *naïveté* extremely interesting. It is not uttered

with the rapidity of the ferruginous thrush, (*turdus rufus*,) and some other eminent songsters; but with the pleasing tranquillity of a careless ploughboy, whistling merely for his own amusement. When alarmed by an approach to his nest, or any such circumstance, he makes a kind of rapid chirruping, very different from his usual note. This, however, is always succeeded by those mellow tones which seem so congenial to his nature.

High on yon poplar, clad in glossiest green,
The orange, black-capp'd Baltimore is seen;
The broad extended boughs still please him best,
Beneath their bending skirts he hangs his nest;
There his sweet mate, secure from every harm,
Broods o'er her spotted store, and wraps them warm;
Lists to the noontide hum of busy bees,
Her partner's mellow song, the brook, the breeze;
These day by day the lonely hours deceive,
From dewy morn to slow descending eve.
Two weeks elapsed, behold! a helpless crew
Claim all her care and her affection too;
On wings of love the assiduous nurses fly,
Flowers, leaves, and boughs, abundant food supply;
Glad chants their guardian as abroad he goes,
And waving breezes rock them to repose.

The Baltimore inhabits North America, from Canada to Mexico, and is even found as far south as Brazil. Since the streets of our cities have been planted with that beautiful and stately tree, the Lombardy poplar, these birds are our constant visitors during the early part of summer; and, amid the noise and tumult of coaches, drays, wheelbarrows, and the din of the multitude, they are heard chanting "their native wood notes wild;" sometimes, too, within a few yards of an oysterman, who stands bellowing, with the lungs of a Stentor, under the shade of the same tree; so much will habit reconcile even birds to the roar of the city, and to sounds and noises, that, in other circumstances, would put a whole grove of them to flight.

These birds are several years in receiving their complete plumage. Sometimes the whole tail of a male individual in spring is yellow, sometimes only the two

middle feathers are black, and frequently the black on the back is skirted with orange, and the tail tipped with the same colour. Three years, I have reason to believe, are necessary to fix the full tint of the plumage, and then the male bird appears as already described.

51. *ICTERUS BALTIMORUS*, WILSON.

FEMALE BALTIMORE ORIOLE.

WILSON, PLATE LIII. FIG. IV.

THE history of this beautiful species has been particularly detailed in the preceding article; but a few particulars may here be added: The males generally arrive several days before the females, saunter about their wonted places of residence, and seem lonely, and less sprightly, than after the arrival of their mates. In the spring and summer of 1811, a Baltimore took up its abode in Mr Bartram's garden, whose notes were so singular as particularly to attract my attention; they were as well known to me as the voice of my most intimate friend. On the 30th of April, 1812, I was again surprised and pleased at hearing this same Baltimore in the garden, whistling his identical old chant; and I observed, that he particularly frequented that quarter of the garden where the tree stood, on the pendent branches of which he had formed his nest the preceding year. This nest had been taken possession of by the house wren, a few days after the Baltimore's brood had abandoned it; and, curious to know how the little intruder had furnished it within, I had taken it down early in the fall, after the wren herself had also raised a brood of six young in it, and which was her second that season. I found it stripped of its original lining, floored with sticks, or small twigs, above which were laid feathers; so that the usual complete nest of the wren occupied the interior of that of the Baltimore.

The chief difference between the male and female Baltimore oriole is the superior brightness of the orange colour of the former to that of the latter. The black on the head, upper part of the back and throat of the female, is intermixed with dull orange; whereas, in the male, those parts are of a deep shining black; the tail of the female also wants the greater part of the black, and the whole lower parts are of a much duskier orange.

I have observed, that these birds are rarely seen in pine woods, or where these trees generally prevail. On the ridges of our high mountains they are seldom to be met with. In orchards, and on well cultivated farms, they are most numerous, generally preferring such places to build in, rather than the woods or forest.

52. *ICTERUS SPURIUS*, BONAPARTE.—*ORIOULUS MUTATUS*, WILSON.

ORCHARD ORIOLE.

WILSON, PL. IV. FIG. I. FEMALE; FIG. II. MALE, TWO YEARS OLD; FIG. III. MALE, THREE YEARS OLD; FIG. IV. THE ADULT MALE. — EDINBURGH COLLEGE MUSEUM.

THERE are no circumstances, relating to birds, which tend so much to render their history obscure and perplexing, as the various changes of colour which many of them undergo. These changes are in some cases periodical; in others progressive; and are frequently so extraordinary, that, unless the naturalist has resided for years in the country where the birds inhabit, and has examined them at almost every season, he is extremely liable to be mistaken and imposed on by their novel appearance. Numerous instances of this kind might be cited, from the pages of European writers, in which the same bird has been described two, three, and even four different times, by the same person; and each time as a different kind. The species we are now about to examine is a remarkable example of this; and it has

never, to my knowledge, been either accurately figured or described.

The Count de Buffon, in introducing what he supposed to be the male of this bird, but which appears evidently to have been the female of the Baltimore oriole, makes the following observations, which I give in the words of his translator :—“ This bird is so called (spurious Baltimore,) because the colours of its plumage are not so lively as in the preceding (*Baltimore o.*) In fact, when we compare these birds, and find an exact correspondence in every thing except the colours, and not even in the distribution of these, but only in the different tints they assume ; we cannot hesitate to infer, that the spurious Baltimore is a variety of a more generous race, degenerated by the influence of climate, or some other accidental cause.”

How the influence of climate could affect one portion of a species and not the other, when both reside in the same climate, and feed nearly on the same food ; or what accidental cause could produce a difference so striking, and also so regular, as exists between the two, are, I confess, matters beyond my comprehension. But, if it be recollected, that the bird which the Count was thus philosophizing upon, was nothing more than the female Baltimore oriole, which exactly corresponds to the description of his male bastard Baltimore, the difficulties at once vanish, and with them the whole superstructure of theory founded on this mistake. Dr Latham, also, while he confesses the great confusion and uncertainty that prevail between the true and bastard Baltimore, and their females, considers it highly probable that the whole will be found to belong to one and the same species, in their different changes of colour. In this conjecture, however, the worthy naturalist has likewise been mistaken ; and I shall endeavour to point out the fact, as well as this source of this mistake.

And here I cannot but take notice of the name which naturalists have bestowed on this bird, and which is certainly remarkable. Specific names, to be perfect, ought to express some peculiarity, common to no other

of the genus ; and should, at least, be consistent with truth ; but, in the case now before us, the name has no one merit of the former, nor even that of the latter to recommend it, and ought henceforth to be rejected as highly improper, and calculated, like that of *goatsucker*, and many others equally ridiculous, to perpetuate that error from which it originated. The word *bastard*, among men, has its determinate meaning ; but when applied to a whole species of birds, perfectly distinct from any other, originally deriving their peculiarities of form, manners, colour, &c. from the common source of all created beings, and perpetuating them, by the usual laws of generation, as unmixed and independent as any other, is, to call it by no worse name, a gross absurdity. Should the reader be displeased at this, I beg leave to remind him, that, as the faithful historian of our feathered tribes, I must be allowed the liberty of vindicating them from every misrepresentation whatever, whether originating in ignorance or prejudice ; and of allotting to each respective species, as far as I can distinguish, that rank and place in the great order of nature to which it is entitled.

To convince the foreigner, (for Americans have no doubt on the subject,) I will add, that I conclude this bird to be specifically different from the Baltimore, from the following circumstances : its size—it is less, and more slender ; its colours, which are different, and *very differently disposed* ; the form of its bill, which is sharper pointed, and more bent ; the form of its tail, which is not *even*, but *wedged* ; its notes, which are neither so full nor so mellow, and uttered with much more rapidity ; its *mode* of building, and the materials it uses, both of which are different ; and, lastly, the shape and colour of the eggs of each, which are evidently unlike. If all these circumstances—and I could enumerate a great many more—be not sufficient to designate this as a distinct species, by what criterion, I would ask, are we to discriminate between a *variety* and an *original* species, or to assure ourselves, that the

great horned owl is not, in fact, a *bastard* goose, or the carrion crow a mere variety of the humming-bird?

These mistakes have been occasioned by several causes. Principally by the changes of colour to which the birds are subject, and the distance of Europeans from the country they inhabit. Catesby, it is true, while here, described and figured the Baltimore, and perhaps was the first who published figures of either species; but he entirely omitted saying any thing of the female, and, instead of the male and female of the present species, as he thought, he has only figured the male in two of his different dresses; and succeeding compilers have followed and repeated the same error. Another cause may be assigned, viz. the extreme shyness of the female orchard oriole. This bird has hitherto escaped the notice of European naturalists, or has been mistaken for another species, or perhaps for a young bird of the first season, which it almost exactly resembles. In none of the numerous works on ornithology has it ever before appeared in its proper character; though the male has been known to Europeans for more than a century, and has usually been figured in one of his dresses as male, and in another as female; these varying according to the fluctuating opinions of different writers. It is amusing to see how gentlemen have groped in the dark in pairing these two species of orioles, of which the following examples may be given.

Buffon's and Latham's Baltimore oriole.	{ <i>Male</i> —Male Baltimore.
	{ <i>Female</i> —Male orchard oriole.
Spurious Baltimore of ditto.	{ <i>Male</i> —Female Baltimore.
	{ <i>Female</i> —Male orchard oriole.
Pennant's Baltimore oriole.	{ <i>Male</i> —Male Baltimore.
	{ <i>Female</i> —Young male Baltimore.
Spurious oriole of ditto.	{ <i>Male</i> —Male orchard oriole.
	{ <i>Female</i> —Ditto ditto.
Catesby's Baltimore oriole.	{ <i>Male</i> —Male Baltimore.
	{ <i>Female</i> —Not mentioned.
Spurious Baltimore of ditto.	{ <i>Male</i> —Male orchard oriole.
	{ <i>Female</i> —Ditto ditto.

Among all these authors Catesby is doubtless the most inexcusable, having lived for several years in America, where he had an opportunity of being more correct: yet, when it is considered, that the female of this bird is so much shyer than the male, that it is seldom seen; and that, while the males are flying around and bewailing an approach to their nest, the females keep aloof, watching every movement of the enemy in restless but silent anxiety; it is less to be wondered at, I say, that two birds of the same kind, but different in plumage, making their appearance together at such times, should be taken for male and female of the same nest, without doubt or examination, as, from that strong sympathy for each other's distress which prevails so universally among them at this season, it is difficult sometimes to distinguish between the sufferer and the sympathizing neighbour.

The female of the orchard oriole is six inches and a half in length, and eleven inches in extent, the colour above is a yellow olive, inclining to a brownish tint on the back; the wings are dusky brown, lesser wing-coverts tipped with yellowish white, greater coverts and secondaries exteriorly edged with the same, primaries slightly so; tail, rounded at the extremity, the two exterior feathers three quarters of an inch shorter than the middle ones; whole lower parts, yellow; bill and legs, light blue; the former bent a little, very sharp pointed, and black towards the extremity; iris of the eye, hazel; pupil, black. The young male of the first season corresponds nearly with the above description. But in the succeeding spring he makes his appearance with a large patch of black marking the front, lores, and throat. In this stage, too, the black sometimes makes its appearance on the two middle feathers of the tail; and slight stains of reddish are seen commencing on the sides and belly. The rest of the plumage as in the female: this continuing nearly the same, on the same bird, during the remainder of the season. At the same time, other individuals are found, which are at least birds of the third summer. These are mottled

with black and olive on the upper parts of the back, and with reddish bay and yellow on the belly, sides, and vent, scattered in the most irregular manner, not alike in any two individuals; and, generally, the two middle feathers of the tail are black, and the others centred with the same colour. When this bird is approaching to its perfect plumage, the black spreads over the whole head, neck, upper part of the back, breast, wings, and tail; the reddish bay, or bright chestnut occupying the lower part of the breast, the belly, vent, rump, tail-coverts, and three lower rows of the lesser wing-coverts. The black on the head is deep and velvety; that of the wings inclining to brown; the greater wing-coverts are tipped with white. In the same orchard, and at the same time, males in each of these states of plumage may be found, united to their respective plain-coloured mates. I may add, that Mr Charles W. Peale, proprietor of the museum in Philadelphia, who, as a practical naturalist, stands deservedly first in the first rank of American connoisseurs; and who has done more for the promotion of that sublime science than all our speculative theorists together, has expressed to me his perfect conviction of the changes which these birds pass through; having himself examined them both in spring and towards the latter part of summer, and having at the present time in his possession thirty or forty individuals of this species, in almost every gradation of change.

In all these, the manners, mode of building, food, and notes are, generally speaking, the same, differing no more than those of any other individuals belonging to one common species. The female appears always nearly the same.

I have said that these birds construct their nests very differently from the Baltimores. They are so particularly fond of frequenting orchards, that scarcely one orchard in summer is without them. They usually suspend their nest from the twigs of the apple tree; and often from the extremities of the outward branches. It is formed exteriorly of a particular species of long,

tough, and flexible grass, knit, or sewed through and through in a thousand directions, as if actually done with a needle. An old lady of my acquaintance, to whom I was one day shewing this curious fabrication, after admiring its texture for some time, asked me, in a tone between joke and earnest, whether I did not think it possible to learn these birds to darn stockings? This nest is hemispherical, three inches deep by four in breadth; the concavity scarcely two inches deep by two in diameter. I had the curiosity to detach one of the fibres, or stalks of dried grass, from the nest, and found it to measure thirteen inches in length, and in that distance was thirty-four times hooked through and returned, winding round and round the nest! The inside is usually composed of the light downy appendages attached to the seeds of the *Platanus occidentalis*, or button-wood, which form a very soft and commodious bed. Here and there the outward work is extended to an adjoining twig, round which it is strongly twisted, to give more stability to the whole, and prevent it from being upset by the wind.

When they choose the long pendent branches of the weeping willow to build in, as they frequently do, the nest, though formed of the same materials, is made much deeper, and of slighter texture. The circumference is marked out by a number of these pensile twigs that descend on each side like ribs, supporting the whole; their thick foliage, at the same time, completely concealing the nest from view. The depth in this case is increased to four or five inches, and the whole is made much slighter. These long pendent branches, being sometimes twelve and even fifteen feet in length, have a large sweep in the wind, and render the first of these precautions necessary, to prevent the eggs or young from being thrown out; and the close shelter afforded by the remarkable thickness of the foliage is, no doubt, the cause of the latter. Two of these nests, such as I have here described, are now lying before me, and exhibit not only art in the construction, but judgment in adapting their fabrication

so judiciously to their particular situations. If the actions of birds proceeded, as some would have us believe, from the mere impulses of that thing called *instinct*, individuals of the same species would uniformly build their nest in the same manner, wherever they might happen to fix it; but it is evident from those just mentioned, and a thousand such circumstances, that they reason *à priori*, from cause to consequence; providently managing with a constant eye to future necessity and convenience.

The eggs are usually four, of a very pale bluish tint, with a few small specks of brown, and spots of dark purple.

The orchard oriole, though partly a dependant on the industry of the farmer, is no sneaking pilferer, but an open, and truly beneficent friend. To all those countless multitudes of destructive bugs and caterpillars that infest the fruit trees in spring and summer, preying on the leaves, blossoms, and embryo of the fruit, he is a deadly enemy; devouring them wherever he can find them, and destroying, on an average, some hundreds of them every day, without offering the slightest injury to the fruit, however much it may stand in his way. I have witnessed instances where the entrance to his nest was more than half closed up by a cluster of apples, which he could have easily demolished in half a minute; but, as if holding the property of his patron sacred, or, considering it as a natural bulwark to his own, he slid out and in with the greatest gentleness and caution. I am not sufficiently conversant in entomology to particularize the different species of insects on which he feeds, but I have good reason for believing that they are almost altogether such as commit the greatest depredations on the fruits of the orchard; and, as he visits us at a time when his services are of the greatest value, and, like a faithful guardian, takes up his station where the enemy is most to be expected, he ought to be held in respectful esteem, and protected by every considerate husbandman. Nor is the gaiety of his song one of his least recommendations. Being an exceedingly active,

sprightly, and restless bird, he is on the ground—on the trees—flying and carolling in his hurried manner, in almost one and the same instant. His notes are shrill and lively, but uttered with such rapidity, and seeming confusion, that the ear is unable to follow them distinctly. Between these, he has a single note, which is agreeable and interesting. Wherever he is protected, he shews his confidence and gratitude by his numbers and familiarity. In the botanic gardens of my worthy and scientific friends, the Messrs Bartrams of Kingsess, which present an epitome of almost every thing that is rare, useful, and beautiful in the vegetable kingdom of this western continent, and where the murderous gun scarce ever intrudes, the orchard oriole revels without restraint through thickets of aromatic flowers and blossoms, and, heedless of the busy gardener that labours below, hangs his nest, in perfect security, on the branches over his head.

The female sits fourteen days; the young remain in the nest ten days afterwards, before they venture abroad, which is generally about the middle of June. Nests of this species, with eggs, are sometimes found so late as the 20th of July, which must either belong to birds that have lost their first nest, or, it is probable, that many of them raise two brood of young in the same season, though I am not positive of the fact.

The orchard orioles arrive in Pennsylvania rather later than the Baltimores, commonly about the first week in May, and extend as far as the province of Maine. They are also more numerous towards the mountains than the latter species. In traversing the country near the Blue ridge, in the month of August, I have seen at least five of this species for one of the Baltimore. Early in September, they take their departure for the south; their term of residence here being little more than four months. Previous to their departure, the young birds become gregarious, and frequent the rich extensive meadows of the Schuylkill, below Philadelphia, in flocks of from thirty to forty, or upwards. They are easily raised from the nest, and

soon become agreeable domestics. One which I reared and kept through the winter, whistled with great clearness and vivacity at two months old. It had an odd manner of moving its head and neck slowly and regularly, and in various directions, when intent on observing any thing, without stirring its body. This motion was as slow and regular as that of a snake. When at night a candle was brought into the room, it became restless, and evidently dissatisfied, fluttering about the cage, as if seeking to get out; but, when the cage was placed on the same table with the candle, it seemed extremely well pleased, fed and drank, drest, shook, and arranged its plumage, sat as close to the light as possible, and sometimes chanted a few broken, irregular notes in that situation, as I sat writing or reading beside it. I also kept a young female of the same nest, during the greater part of winter, but could not observe, in that time, any change in its plumage.

SUBGENUS III. — *XANTHORUS*.52. *ICTERUS PHENICEUS*, DAUD. — *STURNUS PREDATORIUS*, WILS.

RED-WINGED STARLING.

WILSON, PLATE XXX. FIG. I. — MALE. — FIG. II, FEMALE.

THIS notorious and celebrated corn thief, the long reputed plunderer and pest of our honest and laborious farmers, now presents himself before us, with his female copartner in iniquity, to receive the character due for their very active and distinguished services. In investigating the nature of these, I shall endeavour to render strict historical justice to this noted pair; adhering to the honest injunctions of the poet,

Nothing extenuate,
Nor set down aught in malice.

Let the reader divest himself equally of prejudice, and

we shall be at no loss to ascertain accurately their true character.

The red-winged starlings, though generally migratory in the States north of Maryland, are found during winter in immense flocks, sometimes associated with the purple grakles, and often by themselves, along the whole lower parts of Virginia, both Carolinas, Georgia, and Louisiana, particularly near the sea coast, and in the vicinity of large rice and corn fields. In the months of January and February, while passing through the former of these countries, I was frequently entertained with the aerial evolutions of these great bodies of starlings. Sometimes they appeared driving about like an enormous black cloud carried before the wind, varying its shape every moment. Sometimes suddenly rising from the fields around me with a noise like thunder; while the glittering of innumerable wings of the brightest vermilion amid the black cloud they formed, produced on these occasions a very striking and splendid effect. Then descending like a torrent, and covering the branches of some detached grove, or clump of trees, the whole congregated multitude commenced one general concert or chorus, that I have plainly distinguished at the distance of more than two miles; and, when listened to at the intermediate space of about a quarter of a mile, with a slight breeze of wind to swell and soften the flow of its cadences, was to me grand, and even sublime. The whole season of winter, that, with most birds, is past in struggling to sustain life in silent melancholy, is, with the red-wings, one continued carnival. The profuse gleanings of the old rice, corn, and buckwheat fields, supply them with abundant food, at once ready and nutritious; and the intermediate time is spent either in aerial manoeuvres, or in grand vocal performances, as if solicitous to supply the absence of all the tuneful summer tribes, and to cheer the dejected face of nature with their whole combined powers of harmony.

About the 20th of March, or earlier, if the season be open, they begin to enter Pennsylvania in numerous,

though small parties. These migrating flocks are usually observed from daybreak to eight or nine in the morning, passing to the north, chattering to each other as they fly along; and, in spite of all our antipathy, their well known notes and appearance, after the long and dreary solitude of winter, inspire cheerful and pleasing ideas of returning spring, warmth, and verdure. Selecting their old haunts, every meadow is soon enlivened by their presence. They continue in small parties to frequent the low borders of creeks, swamps, and ponds, till about the middle of April, when they separate in pairs to breed; and, about the last week in April or first in May, begin to construct their nest. The place chosen for this is generally within the precincts of a marsh or swamp, meadow, or other like watery situation,—the spot, usually a thicket of alder bushes, at the height of six or seven feet from the ground; sometimes in a detached bush, in a meadow of high grass; often in a tussock of rushes or coarse rank grass; and not unfrequently on the ground: in all of which situations, I have repeatedly found them. When in a bush, they are generally composed outwardly of wet rushes, picked from the swamp, and long tough grass in large quantity, and well lined with very fine bent. The rushes, forming the exterior, are generally extended to several of the adjoining twigs, round which they are repeatedly and securely twisted; a precaution absolutely necessary for its preservation, on account of the flexible nature of the bushes in which it is placed. The same caution is observed when a tussock is chosen, by fastening the tops together, and intertwining the materials of which the nest is formed with the stalks of rushes around. When placed on the ground, less care and fewer materials being necessary, the nest is much simpler and slighter than before. The female lays five eggs, of a very pale light blue, marked with faint tinges of light purple and long straggling lines and dashes of black. It is not uncommon to find several nests in the same thicket, within a few feet of each other.

During the time the female is sitting, and, still more

particularly after the young are hatched, the male, like most other birds that build in low situations, exhibits the most violent symptoms of apprehension and alarm on the approach of any person to its near neighbourhood. Like the lapwing of Europe, he flies to meet the intruder, hovers at a short height over-head, uttering loud notes of distress; and, while in this situation, displays to great advantage the rich glowing scarlet of his wings, heightened by the jetty black of his general plumage. As the danger increases, his cries become more shrill and incessant, and his motions rapid and restless; the whole meadow is alarmed, and a collected crowd of his fellows hover around, and mingle their notes of alarm and agitation with his. When the young are taken away, or destroyed, he continues for several days near the place, restless and dejected, and generally recommences building soon after, in the same meadow. Towards the beginning or middle of August, the young birds begin to fly in flocks, and at that age nearly resemble the female, with the exception of some reddish or orange, that marks the shoulders of the males, and which increases in space and brilliancy as winter approaches. It has been frequently remarked, that, at this time, the young birds chiefly associate by themselves, there being sometimes not more than two or three old males observed in a flock of many thousands. These, from the superior blackness and rich red of their plumage, are very conspicuous.

Before the beginning of September, these flocks have become numerous and formidable; and the young ears of maize, or Indian corn, being then in their soft, succulent, milky state, present a temptation that cannot be resisted. Reinforced by numerous and daily flocks from all parts of the interior, they pour down on the low countries in prodigious multitudes. Here they are seen, like vast clouds, wheeling and driving over the meadows and devoted corn fields, darkening the air with their numbers. Then commences the work of destruction on the corn, the husks of which, though composed of numerous envelopements of closely wrapt

caves, are soon completely or partially torn off; while from all quarters myriads continue to pour down like a empest, blackening half an acre at a time; and, if not disturbed, repeat their depredations till little remains but the cob and the shrivelled skins of the grain; what little is left of the tender ear, being exposed to the rains and weather, is generally much injured. All the attacks and havoc made at this time among them with the gun, and by the hawks,—several species of which are their constant attendants,—has little effect on the remainder. When the hawks make a sweep among them, they suddenly open on all sides, but rarely in time to disappoint them of their victims; and, though repeatedly fired at, with mortal effect, they only remove from one field to an adjoining one, or to another quarter of the same enclosure. From dawn to nearly sunset, this open and daring devastation is carried on, under the eye of the proprietor; and a farmer, who has any considerable extent of corn, would require half-a-dozen men at least, with guns, to guard it; and even then, all their vigilance and activity would not prevent a good tithe of it from becoming the prey of the blackbirds. The Indians, who usually plant their corn in one general field, keep the whole young boys of the village all day patrolling round and among it; and each being furnished with bow and arrows, with which they are very expert, they generally contrive to destroy great numbers of them.

It must, however, be observed, that this scene of pillage is principally carried on in the low countries, not far from the sea-coast, or near the extensive flats that border our large rivers; and is also chiefly confined to the months of August and September. After this period, the corn having acquired its hard shelly coat, and the seeds of the reeds or wild oats, with a provision of other plants, that abound along the river shores, being now ripe, and in great abundance, they present a new and more extensive field for these marauding multitudes. The reeds also supply them with convenient roosting places, being often in almost unapproach-

able morasses; and thither they repair every evening from all quarters of the country. In some places, however, when the reeds become dry, advantage is taken of this circumstance, to destroy these birds, by a party secretly approaching the place, under cover of a dark night, setting fire to the reeds in several places at once, which, being soon enveloped in one general flame, the uproar among the blackbirds becomes universal; and, by the light of the conflagration, they are shot down in vast numbers while hovering and screaming over the place. Sometimes straw is used for the same purpose, being previously strewed near the reeds and alder bushes, where they are known to roost, which being instantly set on fire, the consternation and havoc is prodigious; and the party return by day to pick up the slaughtered game. About the first of November, they begin to move off towards the south; though, near the sea coast, in the states of New Jersey and Delaware, they continue long after that period.

Such are the general manners and character of the red-winged starling; but there remain some facts to be mentioned, no less authentic, and well deserving the consideration of its enemies, more especially, of those whose detestation of this species, would stop at nothing short of total extirpation.

It has been already stated, that they arrive in Pennsylvania late in March. Their general food at this season, as well as during the early part of summer, (for the crows and purple grakles are the principal pests in planting time,) consists of grub-worms, caterpillars, and various other larvæ, the silent, but deadly enemies of all vegetation, and whose secret and insidious attacks are more to be dreaded by the husbandman than the combined forces of the whole feathered tribes together. For these vermin, the starlings search with great diligence; in the ground, at the roots of plants, in orchards, and meadows, as well as among buds, leaves, and blossoms; and, from their known voracity, the multitudes of these insects which they destroy must be immense. Let me illustrate this by a short

computation : If we suppose each bird, on an average, to devour fifty of these larvæ in a day, (a very moderate allowance,) a single pair, in four months, the usual time such food is sought after, will consume upwards of twelve thousand. It is believed, that not less than a million pair of these birds are distributed over the whole extent of the United States in summer; whose food, being nearly the same, would swell the amount of vermin destroyed to twelve thousand millions. But the number of young birds may be fairly estimated at double that of their parents; and, as these are constantly fed on larvæ for at least three weeks, making only the same allowance for them as for the old ones, their share would amount to four thousand two hundred millions; making a grand total of sixteen thousand two hundred millions of noxious insects destroyed in the space of four months by this single species! The combined ravages of such a hideous host of vermin would be sufficient to spread famine and desolation over a wide extent of the richest and best cultivated country on earth. All this, it may be said, is mere supposition. It is, however, supposition founded on known and acknowledged facts. I have never dissected any of these birds in spring without receiving the most striking and satisfactory proofs of these facts; and though, in a matter of this kind, it is impossible to ascertain precisely the amount of the benefits derived by agriculture from this, and many other species of our birds, yet, in the present case, I cannot resist the belief, that the services of this species, in spring, are far more important and beneficial than the value of all that portion of corn which a careful and active farmer permits himself to lose by it.

The great range of country frequented by this bird extends from Mexico, on the south, to Labrador. Our late enterprising travellers across the continent to the Pacific Ocean, observed it numerous in several of the valleys at a great distance up the Missouri. When taken alive, or reared from the nest, it soon becomes familiar, sings frequently, bristling out its feathers,

something in the manner of the cow bunting. These notes, though not remarkably various, are very peculiar. The most common one resembles the syllables *conk-quer-rèe*; others, the shrill sounds produced by filing; I saw: some are more guttural; and others remarkably clear. The usual note of both male and female is a single *chuck*. Instances have been produced where they have been taught to articulate several words distinctly; and, contrary to what is observed of many birds, the male loses little of the brilliancy of his plumage by confinement.

A very remarkable trait of this bird is, the great difference of size between the male and female; the former being nearly two inches longer than the latter, and of proportionate magnitude. They are known by various names in the different States of the Union; such as the *swamp blackbird*, *marsh blackbird*, *red-winged blackbird*, *corn*, or *maize thief*, *starling*, &c. Many of them have been carried from this to different parts of Europe; and Edwards relates, that one of them, which had, no doubt, escaped from a cage, was shot in the neighbourhood of London; and, on being opened, its stomach was found to be filled with grub-worms, caterpillars, and beetles; which Buffon seems to wonder at, as, "in their own country," he observes, "they feed exclusively on grain and maize."

Hitherto this species has been generally classed by naturalists with the orioles. By a careful comparison, however, of its bill with those of that tribe, the similarity is by no means sufficient to justify this arrangement; and its manners are altogether different. I can find no genus to which it makes so near an approach, both in the structure of the bill and in food, flight, and manners, as those of the stare; with which, following my judicious friend Mr Bartram, I have accordingly placed it. To the European, the perusal of the foregoing pages will be sufficient to satisfy him of their similarity of manner. For the satisfaction of those who are unacquainted with the common starling of Europe, I shall select a few sketches of its character,

from the latest and most accurate publication I have seen from that quarter.* Speaking of the stare, or starling, this writer observes, "In the winter season, these birds fly in vast flocks, and may be known at a great distance by their whirling mode of flight, which Buffon compares to a sort of vortex, in which the collective body performs an uniform circular revolution, and, at the same time, continues to make a progressive advance. The evening is the time when the stares assemble in the greatest numbers, and betake themselves to the fens and marshes, where they roost among the reeds: they chatter much in the evening and morning, both when they assemble and disperse. So attached are they to society, that they not only join those of their own species, but also birds of a different kind; and are frequently seen in company with redwings, (a species of thrush,) fieldfares, and even with crows, jackdaws, and pigeons. Their principal food consists of worms, snails, and caterpillars; they likewise eat various kinds of grain, seeds, and berries." He adds, that, "in a confined state, they are very docile, and may easily be taught to repeat short phrases, or whistle tunes with great exactness."

The red-winged starling is nine inches long, and fourteen inches in extent; the general colour is a glossy black, with the exception of the whole lesser wing-coverts, the first, or lower row of which is of a reddish cream colour, the rest a rich and splendid scarlet; legs and bill, glossy brownish black; irides, hazel; bill, cylindrical above, compressed at the sides, straight, running considerably up the forehead, where it is prominent, rounding and flattish towards the tip, though sharp-pointed; tongue, nearly as long as the bill, tapering and lacerated at the end; tail, rounded, the two middle feathers also somewhat shorter than those immediately adjoining.

The female is seven inches and a quarter in length, and twelve inches in extent; chin, a pale reddish

* Bewick's *British Birds*, part i, p. 119, Newcastle, 1809.

cream; from the nostril over the eye, and from the lower mandible, run two stripes of the same, speckled with black; from the posterior angle of the eye backwards, a streak of brownish black covers the auriculars; throat, and whole lower parts, thickly streaked with black and white, the latter inclining to cream on the breast; whole plumage above, black, each feather bordered with pale brown, white, or bay, giving the bird a very mottled appearance; lesser coverts, the same; bill and legs as in the male.

The young birds at first greatly resemble the female; but have the plumage more broadly skirted with brown. The red early shews itself on the lesser wing-coverts of the males, at first pale, inclining to orange, and partially disposed. The brown continues to skirt the black plumage for a year or two, so that it is rare to find an old male altogether destitute of some remains of it; but the red is generally complete in breadth and brilliancy by the succeeding spring. The females are entirely destitute of that ornament.

The flesh of these birds is but little esteemed, being, in general, black, dry, and tough. Strings of them are, however, frequently seen exposed for sale in our markets.

SUBGENUS IV. — *EMBERIZOIDES*.

54. *ICTERUS PECORIS*, TEMM. — *EMBERIZA PECORIS*, WILSON.

COW BUNTING.*

WILSON, PLATE XVIII. FIG. I. MALE—FIG. II. FEMALE.

THERE is one striking peculiarity in the works of the great Creator, which becomes more amazing the

* The American cuckoo (*cuculus Carolinensis*) is by many people called the cow bird, from the sound of its notes resembling the words *cow, cow*. This bird builds its own nest very artlessly in a cedar, or an apple-tree, and lays four greenish blue eggs, which it hatches, and rears its young with great tenderness.

more we reflect on it; namely, that he has formed no species of animals so minute, or obscure, that are not invested with certain powers and peculiarities, both of outward conformation, and internal faculties, exactly suited to their pursuits, sufficient to distinguish them from all others; and forming for them a character solely and exclusively their own. This is particularly so among the feathered race. If there be any case where these characteristic features are not evident, it is owing to our want of observation; to our little intercourse with that particular tribe; or to that contempt for inferior animals, and all their habitudes, which is but too general, and which bespeaks a morose, unfeeling, and unreflecting mind. These peculiarities are often surprising, always instructive where understood, and, (as in the subject of our present chapter,) at least amusing, and worthy of being farther investigated.

The most remarkable trait in the character of this species is, the unaccountable practice it has of dropping its eggs into the nests of other birds, instead of building and hatching for itself; and thus entirely abandoning its progeny to the care and mercy of strangers. More than two thousand years ago, it was well known, in those countries where the bird inhabits, that the cuckoo of Europe (*cuculus canorus*) never built herself a nest, but dropt her eggs in the nests of other birds; but, among the thousands of different species that spread over that and other parts of the globe, no other instance of the same uniform habit has been found to exist, until discovered in the bird now before us. Of the reality of the former there is no doubt; it is known to every schoolboy in Britain; of the truth of the latter I can myself speak with confidence, from personal observation, and from the testimony of gentlemen, unknown to each other, residing in different and distant parts of the United States. The circumstances by which I became first acquainted with this peculiar habit of the bird are as follows:—

I had, in numerous instances, found in the nests of

three or four particular species of birds, one egg, much larger, and differently marked from those beside it; I had remarked, that these odd-looking eggs were all of the same colour, and marked nearly in the same manner, in whatever nest they lay; though frequently the eggs beside them were of a quite different tint; and I had also been told, in a vague way, that the cow bird laid in other birds' nests. At length I detected the female of this very bird in the nest of the red-eyed flycatcher, which nest is very small, and very singularly constructed; suspecting her purpose, I cautiously withdrew without disturbing her; and had the satisfaction to find, on my return, that the egg which she had just dropt corresponded as nearly as eggs of the same species usually do, in its size, tint, and markings, to those formerly taken notice of. Since that time, I have found the young cow bunting, in many instances, in the nests of one or other of these small birds; I have seen these last followed by the young cow bird calling out clamorously for food, and often engaged in feeding it; and I have now, in a cage before me, a very fine one, which, six months ago, I took from the nest of the Maryland yellow-throat. I claim, however, no merit for a discovery not originally my own, these singular habits having long been known to people of observation resident in the country, whose information, in this case, has preceded that of all our school philosophers and closet naturalists, to whom the matter has till now been totally unknown.

About the 25th of March, or early in April, the cow-pen bird makes his first appearance in Pennsylvania from the south, sometimes in company with the red-winged blackbird, more frequently in detached parties, resting early in the morning, an hour at a time, on the tops of trees near streams of water, appearing solitary, silent, and fatigued. They continue to be occasionally seen, in small solitary parties, particularly along creeks and banks of rivers, so late as the middle of June; after which we see no more of them until about the beginning or middle of October, when they reappear in much

larger flocks, generally accompanied by numbers of the redwings; between whom and the present species there is a considerable similarity of manners, dialect, and personal resemblance. In these aerial voyages, like other experienced navigators, they take advantage of the direction of the wind; and always set out with a favourable gale. My venerable and observing friend, Mr Bartram, writes me, on the 13th of October, as follows:—"The day before yesterday, at the height of the northeast storm, prodigious numbers of the cow-pen birds came by us, in several flights of some thousands in a flock; many of them settled on trees in the garden to rest themselves; and then resumed their voyage southward. There were a few of their *cousins*, the redwings, with them. We shot three, a male and two females."

From the early period at which these birds pass in the spring, it is highly probable that their migrations extend very far north. Those which pass in the months of March and April can have no opportunity of depositing their eggs here, there being not more than one or two of our small birds which build so early. Those that pass in May and June are frequently observed loitering singly about solitary thickets, reconnoitring, no doubt, for proper nurses, to whose care they may commit the hatching of their eggs, and the rearing of their helpless orphans. Among the birds selected for this duty are the following, all of which are described in this work:—the bluebird, which builds in a hollow tree; the chipping sparrow, in a cedar bush; the golden-crowned thrush, on the ground, in the shape of an oven; the red-eyed flycatcher, a neat pensile nest, hung by the two upper edges on a small sapling, or drooping branch; the yellow-bird, in the fork of an alder; the Maryland yellow-throat, on the ground, at the roots of brier bushes; the white-eyed flycatcher, a pensile nest on the bending of a smilax vine; and the small blue-gray flycatcher, also a pensile nest, fastened to the slender twigs of a tree, sometimes at the height of fifty or sixty feet from the ground. There are, no

doubt, others to whom the same charge is committed; but all these I have myself met with acting in that capacity.

Among these, the yellow-throat and the red-eyed flycatcher appear to be particular favourites; and the kindness and affectionate attention which these two little birds seem to pay to their nurslings, fully justify the partiality of the parents.

It is well known to those who have paid attention to the manners of birds, that, after their nest is fully finished, a day or two generally elapses before the female begins to lay. This delay is in most cases necessary to give firmness to the yet damp materials, and allow them time to dry. In this state it is sometimes met with, and laid in by the cow bunting; the result of which I have invariably found to be the desertion of the nest by its rightful owner, and the consequent loss of the egg thus dropt in it by the intruder. But when the owner herself has begun to lay, and there are one or more eggs in the nest before the cow bunting deposits hers, the attachment of the proprietor is secured, and remains unshaken until incubation is fully performed, and the little stranger is able to provide for itself.

The well known practice of the young cuckoo of Europe in turning out all the eggs and young which it feels around it, almost as soon as it is hatched, has been detailed in a very satisfactory and amusing manner, by the amiable Dr Jenner,* who has since risen to immortal celebrity, in a much nobler pursuit; and to whose genius and humanity the whole human race are under everlasting obligations. In our cow bunting, though no such habit has been observed, yet still there is something mysterious in the disappearance of the nurse's own eggs soon after the foundling is hatched, which happens regularly before all the rest. From twelve to fourteen days is the usual time of incubation with our small birds; but, although I cannot exactly fix the precise period

* See *Philosophical Transactions* for 1788, Part II.

requisite for the egg of the cow bunting, I think I can say almost positively, that it is a day or two less than the shortest of the above mentioned spaces. In this singular circumstance we see a striking provision of the Deity; for, did this egg require a day or two more, instead of so much less, than those among which it has been dropt, the young it contained would in every instance inevitably perish; and thus in a few years the whole species must become extinct. On the first appearance of the young cow bunting, the parent being frequently obliged to leave the nest to provide sustenance for the foundling, the business of incubation is thus necessarily interrupted; the disposition to continue it abates; nature has now given a new direction to the zeal of the parent, and the remaining eggs, within a day or two at most, generally disappear. In some instances, indeed, they have been found on the ground near, or below, the nest; but this is rarely the case.

I have never known more than one egg of the cow bunting dropt in the same nest. This egg is somewhat larger than that of the bluebird, thickly sprinkled with grains of pale brown on a dirty white ground. It is of a size proportionable to that of the bird.

So extraordinary and unaccountable is this habit, that I have sometimes thought it might not be general among the whole of this species in every situation; that the extreme heat of our summers, though suitable enough for their young, might be too much for the comfortable residence of the parents; that, therefore, in their way to the north, through our climate, they were induced to secure suitable places for their progeny; and that in the regions where they more generally pass the summer, they might perhaps build nests for themselves, and rear their own young, like every other species around them. On the other hand, when I consider that many of them tarry here so late as the middle of June, dropping their eggs, from time to time, into every convenient receptacle; that in the States of Virginia, Maryland, Delaware, New Jersey, and Penn-

sylvania, they uniformly retain the same habits; and, in short, that in all these places I have never yet seen or heard of their nest; reasoning from these facts, I think I may safely conclude, that they never build one, and that, in those remote northern regions, their manners are the same as we find them here.

What reason nature may have for this extraordinary deviation from her general practice, is, I confess, altogether beyond my comprehension. There is nothing singular to be observed in the anatomical structure of the bird that would seem to prevent, or render it incapable of, incubation. The extreme heat of our climate is probably one reason why, in the months of July and August, they are rarely to be seen here. Yet we have many other migratory birds that regularly pass through Pennsylvania to the north, leaving a few residents behind them; who, without exception, build their own nests and rear their own young. This part of the country also abounds with suitable food, such as they usually subsist on. Many conjectures, indeed, might be formed as to the probable cause; but all of them, that have occurred to me, are unsatisfactory and inconsistent. Future, and more numerous observations, made with care, particularly in those countries where they most usually pass the summer, may throw more light on this matter; till then we can only rest satisfied with the reality of the fact.

This species winters regularly in the lower parts of North and South Carolina and Georgia; I have also met with them near Williamsburg, and in several other parts of Virginia. In January, 1809, I observed strings of them for sale in the market of Charleston, South Carolina. They often frequent corn and rice fields, in company with their cousins, as Mr Bartram calls them, the red-winged blackbirds; but are more commonly found accompanying the cattle, feeding on the seeds, worms, &c. which they pick up amongst the fodder and from the excrements of the cattle, which they scratch up for this purpose. Hence they have pretty generally obtained the name of *cow-pen birds*, *cow birds*, or *cow*

blackbirds. By the naturalists of Europe they have hitherto been classed with the finches; though improperly, as they have no family resemblance to that tribe sufficient to justify that arrangement. If we are to be directed by the conformation of their bill, nostrils, tongue, and claws, we cannot hesitate a moment in classing them with the red-winged blackbirds, *oriolus phæniceus*; not, however, as *orioles*, but as *buntings*, or some new intermediate genus; the notes or dialect of the cow bunting and those of the redwings, as well as some other peculiarities of voice and gesticulation, being strikingly similar.

Respecting this extraordinary bird, I have received communications from various quarters, all corroborative of the foregoing particulars. Among these is a letter from Dr Potter of Baltimore, which, as it contains some new and interesting facts, and several amusing incidents, illustrative of the character of the bird, I shall with pleasure lay before the reader, apologizing to the obliging writer for a few unimportant omissions which have been anticipated in the preceding pages.

“ I regret exceedingly that professional avocations have put it out of my power to have replied earlier to your favour of the 19th of September; and although I shall not now reflect all the light you desire, a faithful transcript from memoranda, noted at the moment of observation, may not be altogether uninteresting.

“ The *fringilla pecoris* is generally known in Maryland by the name of the cow blackbird; and none but the naturalist view it as a distinct species. It appears about the last of March, or first week in April, though sometimes a little earlier when the spring is unusually forward. It is less punctual in its appearance than many other of our migratory birds.

“ It commonly remains with us till about the last of October; though unusually cold weather sometimes banishes it much earlier. It, however, sometimes happens that a few of them remain with us all winter,

when straitened for sustenance by snow or hard frost. It is remarkable that in some years I have not been able to discover one of them during the months of July and August; when they have suddenly appeared in September in great numbers. I have noticed this fact always immediately after a series of very hot weather, and then only. The general opinion is, that they then retire to the deep recesses of the shady forest; but, if this had been the fact, I should probably have discovered them in my rambles in every part of the woods. I think it more likely that they migrate farther north, till they find a temperature more congenial to their feelings, or find a richer repast in following the cattle in a better pasture.*

“ In autumn, we often find them congregated with the marsh blackbirds, committing their common depredations upon the ears of the Indian corn; and at other seasons, the similarity of their pursuits in feeding introduces them into the same company. I could never observe that they would keep the company of any other bird.

“ The cow-pen finch differs, moreover, in another respect, from all the birds with which I am acquainted. After an observance of many years, I could never discover any thing like *pairing*, or a mutual attachment between the sexes. Even in the season of love, when

* “ It may not be improper to remark here, that the appearance of this bird in spring is sometimes looked for with anxiety by the farmers. If the horned cattle happen to be diseased in spring, they ascribe it to worms, and consider the pursuit of the birds as an unerring indication of the necessity of medicine. Although this hypothesis of the worms infesting the cattle so as to produce much disease is problematical, their superabundance at this season cannot be denied. The larvæ of several species are deposited in the vegetables when green, and the cattle are fed on them as fodder in winter. This furnishes the principal inducement for the bird to follow the cattle in spring, when the aperient effects of the green grasses evacuates great numbers of worms. At this season the pecoris often stuffs its crop with them till it can contain no more. There are several species, but the most numerous is a small white one, similar to, if not the same as, the ascaris of the human species.”

other birds are separated into pairs, and occupied in the endearing office of providing a receptacle for their offspring, the fringillæ are seen feeding in odd as well as even numbers, from one to twenty, and discovering no more disposition towards perpetuating their species than birds of any other species at other seasons, excepting a promiscuous concubinage, which pervades the whole tribe. When the female separates from the company, her departure is not noticed; no gallant partner accompanies her, nor manifests any solicitude in her absence; nor is her return greeted by that gratulatory tenderness that so eminently characterizes the males of other birds. The male proffers the same civilities to any female indiscriminately, and they are reciprocated accordingly, without exciting either resentment or jealousy in any of the party. This want of sexual attachment is not inconsistent with the general economy of this singular bird; for, as they are neither their own architect, nor nurse of their own young, the degree of attachment that governs others would be superfluous.

“That the fringilla never builds a nest for itself, you may assert without the hazard of a refutation. I once offered a premium for the nest, and the negroes in the neighbourhood brought me a variety of nests; but they were always traced to some other bird. The time of depositing their eggs is from the middle of April to the last of May, or nearly so; corresponding with the season of laying observed by the small birds on whose property it encroaches. It never deposits but one egg in the same nest, and this is generally after the rightful tenant begins to deposit hers, but never, I believe, after she has commenced the process of incubation. It is impossible to say how many they lay in a season, unless they could be watched when confined in an aviary.

“By a minute attention to a number of these birds when they feed in a particular field in the laying season, the deportment of the female, when the time of laying draws near, becomes particularly interesting.

She deserts her associates, assumes a drooping, sickly aspect, and perches upon some eminence where she can reconnoitre the operations of other birds in the process of nidification. If a discovery suitable to her purpose cannot be made from her stand, she becomes more restless, and is seen flitting from tree to tree till a place of deposit can be found. I once had an opportunity of witnessing a scene of this sort, which I cannot forbear to relate. Seeing a female prying into a bunch of bushes in search of a nest, I determined to see the result, if practicable; and, knowing how easily they are disconcerted by the near approach of man, I mounted my horse, and proceeded slowly, sometimes seeing and sometimes losing sight of her, till I had travelled nearly two miles along the margin of a creek. She entered every thick place, prying with the strictest scrutiny into places where the small birds usually build, and at last darted suddenly into a thick copse of alders and briers, where she remained five or six minutes, when she returned, soaring above the underwood, and returned to the company she had left feeding in the field. Upon entering the covert, I found the nest of a yellow-throat, with an egg of each. Knowing the precise time of deposit, I noted the spot and date, with a view of determining a question of importance, the time required to hatch the egg of the cow bird, which I supposed to commence from the time of the yellow-throat's laying the last egg. A few days after, the nest was removed, I knew not how, and I was disappointed. In the progress of the cow bird along the creek's side, she entered the thick boughs of a small cedar, and returned several times before she could prevail on herself to quit the place; and, upon examination, I found a sparrow sitting on its nest, on which she no doubt would have stolen in the absence of the owner. It is, I believe, certain, that the cow-pen finch never makes a forcible entry upon the premises, by attacking other birds, and ejecting them from their rightful tenements, although they are all, perhaps, inferior in strength, except the bluebird, which,

although of a mild as well as affectionate disposition, makes a vigorous resistance when assaulted. Like most other tyrants and thieves, they are cowardly, and accomplish by stealth what they cannot obtain by force.

“ The deportment of the yellow-throat on this occasion is not to be omitted. She returned while I waited near the spot, and darted into her nest, but returned immediately, and perched upon a bough near the place, remained a minute or two, and entered it again, returned, and disappeared. In ten minutes she returned with the male. They chattered with great agitation for half an hour, seeming to participate in the affront, and then left the place. I believe all the birds thus intruded on manifest more or less concern at finding the egg of a stranger in their own nests. Among these, the sparrow is particularly punctilious; for she sometimes chirps her complaints for a day or two, and often deserts the premises altogether, even after she has deposited one or more eggs. The following anecdote will shew not only that the cow-pen finch insinuates herself slyly into the nests of other birds, but that even the most pacific of them will resent the insult: A bluebird had built for three successive seasons in the cavity of a mulberry tree near my dwelling. One day, when the nest was nearly finished, I discovered a female cow bird perched upon a fence stake near it, with her eyes apparently fixed upon the spot, while the builder was busy in adjusting her nest. The moment she left it, the intruder darted into it, and, in five minutes, returned, and sailed off to her companions with seeming delight, which she expressed by her gestures and notes. The bluebird soon returned, and entered the nest, but instantaneously fluttered back with much apparent hesitation, and perched upon the highest branch of the tree, uttering a rapidly repeated note of complaint and resentment, which soon brought the male, who reciprocated her feelings by every demonstration of the most vindictive resentment. They entered the nest together, and returned several times, uttering their uninterrupted

complaints for ten or fifteen minutes. The male then darted away to the neighbouring trees, as if in quest of the offender, and fell upon a cat-bird, which he chastised severely, and then returned to an innocent sparrow that was chanting its ditty in a peach tree. Notwithstanding the affront was so passionately resented, I found the bluebird had laid an egg the next day. Perhaps a tenant less attached to a favourite spot would have acted more fastidiously, by deserting the premises altogether. In this instance, also, I determined to watch the occurrences that were to follow, but, on one of my morning visits, I found the common enemy of the eggs and young of all the small birds had despoiled the nest,—a coluber was found coiled in the hollow, and the eggs sucked.

“ Agreeably to my observation, all the young birds destined to cherish the young cow bird are of a mild and affectionate disposition ; and it is not less remarkable, that they are all smaller than the intruder ; the bluebird is the only one nearly as large. This is a good natured mild creature, although it makes a vigorous defence when assaulted. The yellow-throat, the sparrow, the goldfinch, the indigo-bird, and the bluebird, are the only birds in whose nests I have found the eggs or the young of the cow-pen finch, though doubtless there are some others.

“ What becomes of the eggs or young of the proprietor ? This is the most interesting question that appertains to this subject. There must be some special law of nature which determines that the young of the proprietors are never to be found tenants in common with the young cow bird. I shall offer the result of my own experience on this point, and leave it to you and others, better versed in the mysteries of nature than I am, to draw your own conclusions. Whatever theory may be adopted, the facts must remain the same. Having discovered a sparrow’s nest with five eggs, four and one, and the sparrow sitting, I watched the nest daily. The egg of the cow bird occupied the centre, and those of the sparrow were pushed a little

up the sides of the nest. Five days after the discovery, I perceived the shell of the finch's egg broken, and the next the bird was hatched. The sparrow returned while I was near the nest, with her mouth full of food, with which she fed the young cow bird, with every possible mark of affection, and discovered the usual concern at my approach. On the succeeding day only two of the sparrow's eggs remained, and the next day there were none. I sought in vain for them on the ground, and in every direction.

"Having found the eggs of the cow bird in the nest of a yellow-throat, I repeated my observations. The process of incubation had commenced, and, on the seventh day from the discovery, I found a young cow bird that had been hatched during my absence of twenty-four hours, all the eggs of the proprietor remaining. I had not an opportunity of visiting the nest for three days, and, on my return, there was only one egg remaining, and that rotten. The yellow-throat attended the young interloper with the same apparent care and affection as if it had been its own offspring.

"The next year my first discovery was in a blue-bird's nest, built in a hollow stump. The nest contained six eggs, and the process of incubation was going on. Three or four days after my first visit, I found a young cow bird, and three eggs remaining. I took the eggs out; two contained young birds, apparently come to their full time, and the other was rotten. I found one of the other eggs on the ground at the foot of the stump, differing in no respect from those in the nest, no signs of life being discoverable in either.

"Soon after this, I found a goldfinch's nest with one egg of each only, and I attended it carefully till the usual complement of the owner were laid. Being obliged to leave home, I could not ascertain precisely when the process of incubation commenced; but from my reckoning, I think the egg of the cow bird must have been hatched in nine or ten days from the commencement of incubation. On my return, I found the young cow bird occupying nearly the whole nest, and

the foster mother as attentive to it as she could have been to her own. I ought to acknowledge here, that, in none of these instances, could I ascertain exactly the time required to hatch the cow bird's eggs; and that of course none of them are decisive; but is it not strange that the egg of the intruder should be so uniformly the first hatched? The idea of the egg being larger, and therefore from its own gravity finding the centre of the nest, is not sufficient to explain the phenomenon; for in this situation the other eggs would be proportionably elevated at the sides, and therefore receive as much or more warmth from the body of the incumbent than the other.* This principle would scarcely apply to the eggs of the bluebird, for they are nearly of the same size; if there be any difference, it would be in favour of the eggs of the builder of the nest. How do the eggs get out of the nest? Is it by the size and nestling of the young cow bird? This cannot always be the case; because, in the instance of the bluebird's nest in the hollow stump, the cavity was a foot deep, the nest at the bottom, and the ascent perpendicular; nevertheless, the eggs were removed, although filled with young ones; moreover, a young cow-pen finch is as helpless as any other young bird, and so far from having the power of ejecting others from the nest, or even the eggs, that they are sometimes found on the ground under the nest, especially when the nest happens to be very small. I will not assert that the eggs of the builder of the nest are never hatched; but I can assert, that I have never been able to find one instance to prove the affirmative. If all the eggs of both birds were to be hatched, in some cases the nest would not hold half of them; for instance, those of the sparrow, or yellow-bird. I will not assert, that the supposititious egg is brought to perfection in less time than those of the bird to which the nest

* The ingenious writer seems not to be aware that almost all birds are in the habit, while sitting, of changing the eggs from the centre to the circumference, and *vice versa*, that all of them may receive an equal share of warmth.

belongs; but from the facts stated, I am inclined to adopt such an opinion. How are the eggs removed after the accouchement of the spurious occupant? By the proprietor of the nest unquestionably; for this is consistent with the rest of her economy. After the power of hatching them is taken away by her attention to the young stranger, the eggs would be only an encumbrance, and therefore instinct prompts her to remove them. I might add, that I have sometimes found the eggs of the sparrow, in which were unmatured young ones, lying near the nest containing a cow bird, and therefore I cannot resist this conclusion. Would the foster parent feed two species of young at the same time? I believe not. I have never seen an instance of any bird feeding the young of another, unless immediately after losing her own. I should think the sooty-looking stranger would scarcely interest a mother while the cries of her own offspring, always intelligible, were to be heard. Should such a competition ever take place, I judge the stranger would be the sufferer, and probably the species soon become extinct. Why the *lex naturæ conservatrix* should decide in favour of the surreptitious progeny is not for me to determine.

“As to the vocal powers of this bird, I believe its pretensions are very humble, none of its notes deserving the epithet musical. The sort of simple cackling complaint it utters at being disturbed, constitutes also the expression of its pleasure at finding its companions, varying only in a more rapidly repeated monotony. The deportment of the male during his promiscuous intercourse with the other sex, resembles much that of a pigeon in the same situation. He uses nearly the same gestures; and by attentively listening, you will hear a low, guttural sort of muttering, which is the most agreeable of his notes, and not unlike the cooing of a pigeon.

“This, sir, is the amount of my information on this subject; and is no more than a transcript from my notes made several years ago. For ten years past, since I have lived in this city, many of the impressions of

nature have been effaced, and artificial ideas have occupied their places. The pleasure I formerly received in viewing and examining the objects of nature, are, however, not entirely forgotten; and those which remain, if they can interest you, are entirely at your service. With the sincerest wishes for the success of your useful and arduous undertaking,—I am, dear sir, yours, very respectfully,
NATHANIEL POTTER."

To the above very interesting detail, I shall add the following recent fact, which fell under my own observation, and conclude my account of this singular species.

In the month of July last, I took from the nest of the Maryland yellow-throat, which was built among the dry leaves at the root of a brier bush, a young male cow bunting, which filled and occupied the whole nest. I had previously watched the motions of the foster parents for more than an hour, in order to ascertain whether any more of their young were lurking about or not; and was fully satisfied that there were none. They had, in all probability, perished in the manner before mentioned. I took this bird home with me, and placed it in the same cage with a red-bird (*loxia cardinalis*), who, at first, and for several minutes after, examined it closely, and seemingly with great curiosity. It soon became clamorous for food, and, from that moment, the red-bird seemed to adopt it as his own, feeding it with all the assiduity and tenderness of the most affectionate nurse. When he found that the grasshopper which he had brought it was too large for it to swallow, he took the insect from it, broke it in small portions, chewed them a little to soften them, and, with all the gentleness and delicacy imaginable, put them separately into its mouth. He often spent several minutes in looking at and examining it all over, and in picking off any particles of dirt that he observed on its plumage. In teaching and encouraging it to learn to eat of itself, he often reminded me of the lines of Goldsmith,

He tried each art, reproved each dull delay,
Allured to "fav'rite food," and led the way.

This cow bird is now six months old, is in complete plumage, and repays the affectionate services of his foster parent with a frequent display of all the musical talents with which nature has gifted him. These, it must be confessed, are far from being ravishing; yet, for their singularity, are worthy of notice. He spreads his wings, swells his body into a globular form, bristling every feather in the manner of a turkey cock, and, with great seeming difficulty, utters a few low, spluttering notes, as if proceeding from his belly; always, on these occasions, strutting in front of the spectator with great consequential affectation.

To see the red-bird, who is himself so excellent a performer, silently listening to all this guttural splutter, reminds me of the great Handel contemplating a wretched catgut scraper. Perhaps, however, these may be meant for the notes of *love* and *gratitude*, which are sweeter to the ear, and dearer to the heart, than all the artificial solos or concertos on this side heaven.

The length of this species is seven inches, breadth eleven inches; the head and neck is of a very deep silky drab; the upper part of the breast a dark changeable violet; the rest of the bird is black, with a considerable gloss of green when exposed to a good light; the form of the bill is evidently that of an *emberiza*; the tail is slightly forked; legs and claws, glossy black, strong and muscular; iris of the eye, dark hazel. Catesby says of this bird, "it is all over of a brown colour, and something lighter below;" a description that applies only to the female, and has been repeated, in nearly the same words, by almost all succeeding ornithologists. The young male birds are at first altogether brown, and, for a month, or more, are naked of feathers round the eye and mouth; the breast is also spotted like that of a thrush, with light drab and darker streaks. In about two months after they leave the nest, the black commences at the shoulders of the wings, and gradually increases along each side, as the young feathers come out, until the bird appears mottled on the back and breast with deep black, and light drab. At three

months, the colours of the plumage are complete, and, except in moulting, they are subject to no periodical change.

55. *ICTERUS AGRIPENNIS*, BONAPARTE.

EMBERIZA ORYZIVORA, WILSON. — RICE BUNTING.

WILSON, PLATE XII. FIG. I. MALE, IN SPRING : FIG. II. FEMALE.

THIS is the *boblink* of the eastern and northern states, and the *rice* and *reed-bird* of Pennsylvania and the southern states. Though small in size, he is not so in consequence ; his coming is hailed by the sportsman with pleasure ; while the careful planter looks upon him as a devouring scourge, and worse than a plague of locusts. Three good qualities, however, entitle him to our notice, particularly as these three are rarely found in the same individual,—his plumage is beautiful, his song highly musical, and his flesh excellent. I might also add, that the immense range of his migrations, and the havoc he commits, are not the least interesting parts of his history.

The winter residence of this species I suppose to be from Mexico to the mouth of the Amazon, from whence, in hosts innumerable, he regularly issues every spring ; perhaps to both hemispheres, extending his migrations northerly, as far as the Illinois, and the shores of the St Lawrence. Could the fact be ascertained, which has been asserted by some writers, that the emigration of these birds was altogether unknown in this part of the continent, previous to the introduction of rice plantations, it would certainly be interesting. Yet, why should these migrations reach at least a thousand miles beyond those places where rice is now planted ; and this, not in occasional excursions, but regularly to breed, and rear their young, where rice never was, and, probably, never will be cultivated ? Their so recent arrival on this part of the continent, I believe to be altogether imaginary, because, though there were

not a single grain of rice cultivated within the United States, the country produces an exuberance of food, of which they are no less fond. Insects of various kinds, grubs, May-flies, and caterpillars, the young ears of Indian corn, and the seed of the wild oats, or, as it is called in Pennsylvania, reeds (the *zizania aquatica* of Linnæus,) which grows in prodigious abundance along the marshy shores of our large rivers, furnish, not only them, but millions of rail, with a delicious subsistence for several weeks. I do not doubt, however, that the introduction of rice, but more particularly the progress of agriculture, in this part of America, has greatly increased their numbers, by multiplying their sources of subsistence fifty fold within the same extent of country.

In the month of April, or very early in May, the rice bunting, male and female, arrive within the southern boundaries of the United States; and are seen around the town of Savannah, in Georgia, about the 4th of May, sometimes in separate parties of males and females, but more generally promiscuously. They remain there but a short time; and, about the 12th of May, make their appearance in the lower parts of Pennsylvania, as they did at Savannah. While here, the males are extremely gay and full of song; frequenting meadows, newly ploughed fields, sides of creeks, rivers, and watery places, feeding on May-flies and caterpillars, of which they destroy great quantities. In their passage, however, through Virginia, at this season, they do great damage to the early wheat and barley, while in its milky state. About the 20th of May, they disappear, on their way to the north. Nearly at the same time, they arrive in the State of New York, spread over the whole New England States as far as the river St Lawrence, from lake Ontario to the sea; in all of which places, north of Pennsylvania, they remain during the summer, building, and rearing their young. The nest is fixed in the ground, generally in a field of grass; the outside is composed of dry leaves and coarse grass, the inside is lined with fine stalks of the same, laid in considerable

quantity. The female lays five eggs, of a bluish white, marked with numerous irregular spots of blackish brown. The song of the male, while the female is sitting, is singular, and very agreeable. Mounting and hovering on wing, at a small height above the field, he chants out such a jingling medley of short variable notes, uttered with such seeming confusion and rapidity, and continued for a considerable time, that it appears as if half a dozen birds of different kinds were all singing together. Some idea may be formed of this song by striking the high keys of a piano-forte at random, singly, and quickly, making as many sudden contrasts of high and low notes as possible. Many of the tones are, in themselves, charming; but they succeed each other so rapidly that the ear can hardly separate them. Nevertheless the general effect is good; and, when ten or twelve are all singing on the same tree, the concert is singularly pleasing. I kept one of these birds for a long time, to observe its change of colour. During the whole of April, May, and June, it sang almost continually. In the month of June, the colour of the male begins to change, gradually assimilating to that of the female, and, before the beginning of August, it is difficult to distinguish the one from the other. At this time, also, the young birds are so much like the female, or rather like both parents, and the males so different in appearance from what they were in spring, that thousands of people in Pennsylvania, to this day, persist in believing them to be a different species altogether; while others allow them, indeed, to be the same, but confidently assert that they are all females—none but females, according to them, returning in the fall; what becomes of the males they are totally at a loss to conceive. Even Mr Mark Catesby, who resided for years in the country they inhabit, and who, as he himself informs us, examined by dissection great numbers of them in the fall, and repeated his experiment the succeeding year, lest he should have been mistaken, declares that he uniformly found them to be females. These assertions must appear odd to

the inhabitants of the eastern States, to whom the change of plumage in these birds is familiar, as it passes immediately under their eye; and also to those who, like myself, have kept them in cages, and witnessed their gradual change of colour. That accurate observer, Mr William Bartram, appears, from the following extract, to have taken notice of, or at least suspected, this change of colour in these birds, more than forty years ago. "Being in Charleston," says he, "in the month of June, I observed a cage full of rice birds, that is, of the yellow or female colour, who were very merry and vociferous, having the same variable music with the pied or male bird, which I thought extraordinary, and, observing it to the gentleman, he assured me that they were all of the male kind, taken the preceding spring; but had changed their colour, and would be next spring of the colour of the pied, thus changing colour with the seasons of the year. If this is really the case, it appears they are both of the same species intermixed, spring and fall." Without, however, implicating the veracity of Catesby, who, I have no doubt, believed as he wrote, a few words will easily explain why he was deceived: The internal organization of undomesticated birds, of all kinds, undergoes a remarkable change every spring and summer; and those who wish to ascertain this point by dissection will do well to remember, that in this bird those parts that characterize the male are, in autumn, no larger than the smallest pin's head, and in young birds of the first year can scarcely be discovered; though in spring their magnitude in each is at least one hundred times greater. To an acquaintance with this extraordinary circumstance, I am persuaded, has been owing the mistake of Mr Catesby, that the females only return in the fall; for the same opinion I long entertained myself, till a more particular examination shewed me the source of my mistake. Since that, I have opened and examined many hundreds of these birds, in the months of September and October, and, on the whole, have found about as many males as females among them. The latter may be distinguished

from the former by being of a rather more shining yellow on the breast and belly ; it is the same with the young birds of the first season.

During the breeding season, they are dispersed over the country ; but, as soon as the young are able to fly, they collect together in great multitudes, and pour down on the oat fields of New England like a torrent, depriving the proprietors of a good tithe of their harvest ; but, in return, often supply his table with a very delicious dish. From all parts of the north and western regions, they direct their course towards the south ; and, about the middle of August, revisit Pennsylvania, on their route to winter quarters. For several days, they seem to confine themselves to the fields and uplands ; but, as soon as the seeds of the reed are ripe they resort to the shores of the Delaware and Schuylkil in multitudes ; and these places, during the remainder of their stay, appear to be their grand rendezvous. The reeds, or wild oats, furnish them with such abundance of nutritious food, that in a short time they become extremely fat ; and are supposed, by some of our epicures, to be equal to the famous ortolans of Europe. Their note at this season is a single *chink* and is heard over-head, with little intermission, from morning to night. These are halcyon days for our gunners of all descriptions, and many a lame and rusty gun-barrel is put in requisition for the sport. The report of musketry along the reedy shores of the Schuylkill and Delaware is almost incessant, resembling a running fire. The markets of Philadelphia, at this season, exhibit proofs of the prodigious havoc made among these birds ; for almost every stall is ornamented with strings of reed birds. This sport, however, is considered inferior to that of rail shooting, which is carried on at the same season and places, with equal slaughter. Of this, as well as of the rail itself, we shall give a particular account in its proper place.

Whatever apology the people of the eastern and southern States may have for the devastation the spread among the rice and reed birds, the Pennsylv

vanians—at least those living in this part of it—have little to plead in justification, but the pleasure of destruction, or the savoury dish they furnish their tables with; for the oat harvest is generally secured before the great body of these birds arrive, the Indian corn too ripe and hard, and the reeds seem to engross all their attention. But in the States south of Maryland, the harvest of early wheat and barley in spring, and the numerous plantations of rice in fall, suffer severely. Early in October, or as soon as the nights begin to set in cold, they disappear from Pennsylvania, directing their course to the south. At this time they swarm among the rice fields; and appear in the Island of Cuba in immense numbers, in search of the same delicious grain. About the middle of October, they visit the Island of Jamaica in equal numbers, where they are called butter birds. They feed on the seed of the Guinea grass, and are also in high esteem there for the table.*

Thus it appears, that the regions north of the fortieth degree of latitude, are the breeding places of these birds; that their migrations northerly are performed from March to May, and their return southerly from August to November; their precise winter quarters, or farthest retreat southerly, is not exactly known.

The rice bunting is seven inches and a half long, and eleven and a half in extent; his spring dress is as follows:—Upper part of the head, wings, tail, and sides of the neck, and whole lower parts, black; the feathers frequently skirted with brownish yellow, as he passes into the colours of the female; back of the head, a cream colour; back, black, seamed with brownish yellow; scapulars, pure white, rump and tail-coverts the same; lower part of the back, bluish white; tail, formed like those of the woodpecker genus, and often used in the same manner, being thrown in to support it while ascending the stalks of the reed; this habit of throwing in the tail it retains

* Rennel's *Hist. Jam.*

even in the cage ; legs, a brownish flesh colour ; hind heel, very long ; bill, a bluish horn colour ; eye, hazel. In the month of June this plumage gradually changes to a brownish yellow, like that of the female, which has the back streaked with brownish black ; whole lower parts, dull yellow ; bill, reddish flesh colour ; legs and eyes as in the male. The young birds retain the dress of the female until the early part of the succeeding spring ; the plumage of the female undergoes no material change of colour.

GENUS X.—QUISCALUS, VIEILL.

56. *QUISCALUS FERRUGINEUS*, BONAPARTE.*GRACULA FERRUGINEA*, WILS.

RUSTY GRAKLE.

WILSON, PLATE XXI. FIG. III. — ADULT MALE IN SPRING.

HERE is a single species described by one of the most judicious naturalists of Great Britain no less than five different times!—the greater part of these descriptions is copied by succeeding naturalists, whose synonymes it is unnecessary to repeat : so great is the uncertainty in judging, from a mere examination of their dried or stuffed skins, of the particular tribes of birds, many of which, for several years, are constantly varying in the colours of their plumage, and, at different seasons, or different ages, assuming new and very different appearances. Even the size is by no means a safe criterion, the difference in this respect between the male and female of the same species (as in the one now before us) being sometimes very considerable.

This bird arrives in Pennsylvania, from the north early in October ; associates with the redwings, and, cow-pen buntings, frequents corn fields, and places where grasshoppers are plenty ; but Indian corn, at that season, seems to be its principal food. It is a very silent bird, having only now and then a single note, or *chuck*. We see them occasionally until about the

middle of November, when they move off to the south. On the 12th of January I overtook great numbers of these birds in the woods near Petersburg, Virginia, and continued to see occasional parties of them almost every day as I advanced southerly, particularly in South Carolina, around the rice plantations, where they were numerous, feeding about the hog pens, and wherever Indian corn was to be procured. They also extend to a considerable distance westward. On the 5th of March, being on the banks of the Ohio, a few miles below the mouth of the Kentucky river, in the midst of a heavy snow storm, a flock of these birds alighted near the door of the cabin where I had taken shelter, several of which I shot, and found their stomachs, as usual, crammed with Indian corn. Early in April they pass hastily through Pennsylvania, on their return to the north to breed.

From the accounts of persons who have resided near Hudson's Bay, it appears that these birds arrive there in the beginning of June, as soon as the ground is thawed sufficiently for them to procure their food, which is said to be worms and maggots; sing with a fine note till the time of incubation, when they have only a chucking noise, till the young take their flight; at which time they resume their song. They build their nests in trees, about eight feet from the ground, forming them with moss and grass, and lay five eggs of a dark colour, spotted with black. It is added, they gather in great flocks, and retire southerly in September.*

The male of this species, when in perfect plumage, is nine inches in length, and fourteen in extent; at a small distance appears wholly black; but on a near examination is of a glossy dark green; the irides of the eye are silvery, as in those of the purple grackle; the bill is black, nearly of the same form with that of the last mentioned species; the lower mandible a little rounded, with the edges turned inward, and the upper one furnished with a sharp bony process on the inside,

* *Arctic Zoology*, p. 259.

exactly like that of the purple species. The tongue is slender, and lacerated at the tip; legs and feet, black and strong; the hind claw the largest; the tail is slightly rounded. This is the colour of the male when of full age; but three-fourths of these birds which we meet with, have the whole plumage of the breast, head, neck, and back, tinged with brown; every feather being skirted with ferruginous; over the eye is a light line of pale brown, below that one of black passing through the eye. This brownness gradually goes off towards spring, for almost all those I shot in the southern states were but slightly marked with ferruginous. The female is nearly an inch shorter; head, neck, and breast, almost wholly brown; a light line over the eye; lores, black; belly and rump, ash; upper and under tail-coverts, skirted with brown; wings, black, edged with rust colour; tail, black, glossed with green; legs, feet, and bill, as in the male.

These birds might easily be domesticated. Several that I had winged and kept for some time, became in a few days quite familiar, seeming to be very easily reconciled to confinement.

57. *QUISCALUS VERSICOLOR*, VIEILL. — *GRACULA QUISCALA*, WILS.

PURPLE GRAKLE.

WILSON, PLATE XXI. FIG. IV. — MALE.

THIS noted depredator is well known to every careful farmer of the northern and middle states. About the 20th of March the purple grakles visit Pennsylvania from the south, fly in loose flocks, frequent swamps and meadows, and follow in the furrows after the plough; their food at this season consisting of worms, grubs, and caterpillars, of which they destroy prodigious numbers, as if to recompense the husbandman beforehand for the havoc they intend to make among his crops of Indian corn. Towards evening they retire to the nearest cedars and pine trees to roost, making a continual chattering as they fly along. On the tallest

of these trees they generally build their nests in company, about the beginning or middle of April; sometimes ten or fifteen nests being on the same tree. One of these nests, taken from a high pine tree, is now before me. It measures full five inches in diameter within, and four in depth; is composed outwardly of mud, mixed with long stalks and roots of a knotty kind of grass, and lined with fine bent and horse hair. The eggs are five, of a bluish olive colour, marked with large spots and straggling streaks of black and dark brown, also with others of a fainter tinge. They rarely produce more than one brood in a season.

The trees where these birds build are often at no great distance from the farm house, and overlook the plantations. From thence they issue, in all directions, and with as much confidence, to make their daily depredations among the surrounding fields, as if the whole were intended for their use alone. Their chief attention, however, is directed to the Indian corn in all its progressive stages. As soon as the infant blade of this grain begins to make its appearance above ground, the grakles hail the welcome signal with screams of peculiar satisfaction, and, without waiting for a formal invitation from the proprietor, descend on the fields and begin to pull up and regale themselves on the seed, scattering the green blades around. While thus eagerly employed, the vengeance of the gun sometimes overtakes them; but these disasters are soon forgotten, and those

—— who live to get away,
Return to steal, another day.

About the beginning of August, when the young ears are in their milky state, they are attacked with redoubled eagerness by the grakles and redwings, in formidable and combined bodies. They descend like a blackening, sweeping tempest on the corn, dig off the external covering of twelve or fifteen coats of leaves, as dexterously as if done by the hand of man, and, having laid bare the ear, leave little behind to the farmer but the cobs, and shrivelled skins, that contained their favourite

fare. I have seen fields of corn of many acres, where more than one-half was thus ruined. Indeed the farmers in the immediate vicinity of the rivers Delaware and Schuylkill, generally allow one-fourth of this crop to the blackbirds, among whom our grackle comes in for his full share. During these depredations, the gun is making great havoc among their numbers, which has no other effect on the survivors than to send them to another field, or to another part of the same field. This system of plunder and of retaliation continues until November, when, towards the middle of that month, they begin to sheer off towards the south. The lower parts of Virginia, North and South Carolina, and Georgia, are the winter residences of these flocks. Here numerous bodies, collecting together from all quarters of the interior and northern districts, and darkening the air with their numbers, sometimes form one congregated multitude of many hundred thousands. A few miles from the banks of the Roanoke, on the 20th of January, I met with one of those prodigious armies of grackles. They rose from the surrounding fields with a noise like thunder, and, descending on the length of road before me, covered it and the fences completely with black, and when they again rose, and, after a few evolutions, descended on the skirts of the high timbered woods, at that time destitute of leaves, they produced a most singular and striking effect; the whole trees for a considerable extent, from the top to the lowest branches, seeming as if hung in mourning; their notes and screaming the meanwhile resembling the distant sound of a great cataract, but in more musical cadence, swelling and dying away on the ear, according to the fluctuation of the breeze. In Kentucky, and all along the Mississippi, from its juncture with the Ohio to the Balize, I found numbers of these birds, so that the purple grackle may be considered as a very general inhabitant of the territory of the United States.

Every industrious farmer complains of the mischief committed on his corn by the *crow blackbirds*, as they are usually called; though, were the same means used,

as with pigeons, to take them in clap nets, multitudes of them might thus be destroyed ; and the products of them in market, in some measure, indemnify him for their depredations. But they are most numerous and most destructive at a time when the various harvests of the husbandman demand all his attention, and all his hands to cut, cure, and take in ; and so they escape with a few sweeps made among them by some of the younger boys with the gun ; and by the gunners from the neighbouring towns and villages ; and return from their winter quarters, sometimes early in March, to renew the like scenes over again. As some consolation, however, to the industrious cultivator, I can assure him, that were I placed in his situation, I should hesitate whether to consider these birds most as friends or enemies, as they are particularly destructive to almost all the noxious worms, grubs, and caterpillars, that infest his fields, which, were they allowed to multiply unmolested, would soon consume nine-tenths of all the production of his labour, and desolate the country with the miseries of famine ! Is not this another striking proof that the Deity has created nothing in vain ; and that it is the duty of man, the lord of the creation, to avail himself of their usefulness, and guard against their bad effects as securely as possible, without indulging in the barbarous and even impious wish for their utter extermination ?

The purple grackle is twelve inches long and eighteen in extent ; on a slight view, seems wholly black, but placed near, in a good light, the whole head, neck, and breast, appear of a rich glossy steel blue, dark violet, and silky green ; the violet prevails most on the head and breast, and the green on the hind part of the neck. The back, rump, and whole lower parts, the breast excepted, reflect a strong coppery gloss ; wing-coverts, secondaries, and coverts of the tail, rich light violet, in which the red prevails ; the rest of the wings, and rounded tail, are black, glossed with steel blue. All the above colours are extremely shining, varying as differently exposed to the light ; iris of the eye, silvery ;

bill more than an inch long, strong, and furnished on the inside of the upper mandible with a sharp process, like the stump of the broken blade of a penknife, intended to assist the bird in macerating its food; tongue, thin, bifid at the end, and lacerated along the sides.

The female is rather less, has the upper part of the head, neck, and the back, of a dark sooty brown; chin, breast, and belly, dull pale brown, lightest on the former; wings, tail, lower parts of the back and vent, black, with a few reflections of dark green; legs, feet, bill, and eyes, as in the male.

The purple grakle is easily tamed, and sings in confinement. They have also in several instances been taught to articulate some few words pretty distinctly.

A singular attachment frequently takes place between this bird and the fish hawk. The nest of this latter is of very large dimensions, often from three to four feet in breadth, and from four to five feet high; composed, externally, of large sticks, or fagots, among the interstices of which sometimes three or four pair of crow blackbirds will construct their nests, while the hawk is sitting or hatching above. Here each pursues the duties of incubation and of rearing their young; living in the greatest harmony, and mutually watching and protecting each other's property from depredators.

GENUS XI.—*CORVUS*, LINNÆUS.

SUBGENUS I.—*CORVUS*, BRISS.

58. *CORVUS CORAX*.—RAVEN.

WILSON, PLATE LXXV. FIG. III.

A KNOWLEDGE of this celebrated bird has been handed down to us from the earliest ages; and its history is almost coeval with that of man. In the best and most ancient of all books, we learn, that at the end of forty days, after the great flood had covered the

earth, Noah, wishing to ascertain whether or no the waters had abated, sent forth a raven, which did not return into the ark.* This is the first notice that is taken of this species. Though the raven was declared unclean by the law of Moses, yet we are informed, that, when the prophet Elijah provoked the enmity of Ahab, by prophesying against him, and hid himself by the brook Cherith, the ravens were appointed by Heaven to bring him his daily food.† The colour of the raven has given rise to a similitude, in one of the most beautiful of eclogues, which has been perpetuated in all subsequent ages, and which is not less pleasing for being trite or proverbial. The favourite of the royal lover of Jerusalem, in the enthusiasm of affection, thus describes the object of her adoration, in reply to the following question :—

What is thy beloved more than another beloved,
 O thou fairest among women ?
 My beloved is white and ruddy, the chiefest among
 Ten thousand. His head is as the most fine gold,
 His locks are bushy, and black as a raven ! ‡

The above-mentioned circumstances taken into consideration, one would suppose that the lot of the subject of this chapter would have been of a different complexion from what history and tradition inform us is the fact. But in every country we are told the raven is considered an ominous bird, whose croakings foretell approaching evil ; and many a crooked beldam has given interpretation to these oracles, of a nature to infuse terror into a whole community. Hence this ill-fated bird, from time immemorial, has been the innocent subject of vulgar obloquy and detestation.

Augury, or the art of foretelling future events by the flight, cries, or motions of birds, descended from the Chaldeans to the Greeks, thence to the Etrurians, and from them it was transmitted to the Romans.§ The

* Genesis, viii, 7.

† 1 Kings, xvii, 5, 6.

‡ Song of Solomon, v, 9, 10, 11.

§ That the science of augury is very ancient, we learn from the Hebrew lawgiver, who prohibits it, as well as every other kind of

crafty legislators of these celebrated nations, from a deep knowledge of human nature, made superstition a principal feature of their religious ceremonies, well knowing that it required a more than ordinary policy to govern a multitude, ever liable to the fatal influences of passion; and who, without some timely restraints, would burst forth like a torrent, whose course is marked by wide-spreading desolation. Hence to the purposes of polity the raven was made subservient; and the Romans having consecrated it to Apollo, as to the god of divination, its flight was observed with the greatest solemnity; and its tones and inflections of voice were noted with a precision which intimated a belief in its infallible prescience.

But the ancients have not been the only people infected with this species of superstition; the moderns, even though favoured with the light of Christianity, have exhibited as much folly, through the impious curiosity of prying into futurity, as the Romans themselves. It is true that modern nations have not instituted their sacred colleges or sacerdotal orders, for the purposes of divination; but, in all countries, there have been self-constituted augurs, whose interpretations of omeus have been received with religious respect by the credulous multitude. Even at this moment, in some parts of the world, if a raven alight on a village church, the whole fraternity is in an uproar; and Heaven is importuned, in all the ardour of devotion, to avert the impending calamity.

divination. Deut. chap. xviii. The Romans derived their knowledge of augury chiefly from the Tuscans or Etrurians, who practised it in the earliest times. This art was known in Italy before the time of Romulus, since that prince did not commence the building of Rome till he had taken the auguries. The successors of Romulus, from a conviction of the usefulness of the science, and at the same time not to render it contemptible by becoming too familiar, employed the most skilful augurs from Etruria to introduce the practice of it into their religious ceremonies. And, by a decree of the senate, some of the youth of the best families in Rome were annually sent into Tuscany to be instructed in this art. — Vide *Cicero. de Divin.*; also Calmet and the Abbé Banier.

The poets have taken advantage of this weakness of human nature; and, in their hands, the raven is a fit instrument of terror. Shakespeare puts the following malediction into the mouth of his Caliban:—

As wicked dew, as e'er my mother brush'd,
With raven's feather, from unwholesome fen,
Drop on you both! *

The ferocious wife of Macbeth, on being advised of the approach of Duncan, whose death she had conspired, thus exclaims:—

The raven himself is hoarse,
That croaks the fatal entrance of Duncan
Under my battlements! †

The Moor of Venice says,—

It comes o'er my memory,
As doth the raven o'er the infected house,
Boding to all. ‡

The last quotation alludes to the supposed habit of this bird's flying over those houses which contain the sick, whose dissolution is at hand, and thereby announced. Thus Marlowe, in the *Jew of Malta*, as cited by Malone:—

The sad presaging raven tolls
The sick man's passport in her hollow beak;
And, in the shadow of the silent night,
Doth shake contagion from her sable wing.

But it is the province of philosophy to dispel these illusions which bewilder the mind, by pointing out the simple truths which nature has been at no pains to conceal, but which the folly of mankind has shrouded in all the obscurity of mystery.

The raven is a general inhabitant of the United States, but is more common in the interior. On the lakes, and particularly in the neighbourhood of the

* *Tempest*, act i, scene 2.

† Act i, scene 5.

‡ *Othello*, act i, scene 4.

Falls of the Niagara river, they are numerous; and it is a remarkable fact, that where they so abound, the common crow (*c. corone*) seldom makes its appearance; being intimidated, it is conjectured, by the superior size and strength of the former, or by an antipathy which the two species manifest towards each other. This I had an opportunity of observing myself, in a journey during the months of August and September, along the lakes Erie and Ontario. The ravens were seen every day, prowling about in search of the dead fish which the waves are continually casting ashore, and which afford them an abundance of a favourite food; but I did not see or hear a single crow within several miles of the lakes, and but very few through the whole of the Genesee country.

The food of this species is dead animal matter of all kinds, not excepting the most putrid carrion, which it devours in common with the vultures; worms, grubs, reptiles, and shell fish, the last of which, in the manner of the crow, it drops from a considerable height in the air on the rocks, in order to break the shells; it is fond of bird's eggs, and is often observed sneaking around the farm house in search of the eggs of the domestic poultry, which it sucks with eagerness; it is likewise charged with destroying young ducks and chickens, and lambs which have been yeaned in a sickly state. The raven, it is said, follows the hunters of deer for the purpose of falling heir to the offal;* and the huntsmen are obliged to cover their game, when it is left in the woods, with their hunting frocks, to protect it from this thievish connoisseur, who, if he have an opportunity, will attack the region of the kidneys, and mangle the saddle without ceremony.

Buffon says, that "the raven *plucks out the eyes of buffaloes*, and then, *fixing on the back, it tears off the flesh deliberately*; and what renders the ferocity more detestable, it is not incited by the cravings of hunger,

* This is the case in those parts of the United States where the deer are hunted without dogs: where these are employed, they are generally rewarded with the offal.

but by the appetite for carnage; for it can subsist on fruits, seed of all kinds, and indeed may be considered as an omnivorous animal." This is mere fable, and of a piece with many other absurdities of the same romanizing author.

This species is found almost all over the habitable globe. We trace it in the north from Norway to Greenland, and hear of it in Kamtschatka. It is common every where in Russia and Siberia, except within the Arctic circle;* and all through Europe. Kolben enumerates the raven among the birds of the Cape of Good Hope;† De Grandpré represents it as numerous in Bengal, where they are said to be protected for their usefulness;‡ and the unfortunate La Pérouse saw them at Baie de Castries, on the east coast of Tartary; likewise at Port des François, 58° 37' north latitude, and 139° 50' west longitude; and at Monterey Bay, North California.§ The English circumnavigators met with them at Nootka Sound;|| and at the Sandwich Islands, two being seen in the village of Kakooa; also at Owhyhee, and supposed to be adored there, as they were called Eatooas.¶ Our intrepid American travellers, under the command of Lewis and Clark, shortly after they embarked on the Columbia river, saw abundance of ravens, which were attracted thither by the immense quantity of dead salmon which lined the shores.** They are found at all seasons at Hudson's Bay;†† are frequent in Mexico;‡‡ and it is more than probable that they inhabit the whole continent of America.

The raven measures, from the tip of the bill to the end of the tail, twenty-six inches, and is four feet in extent; the bill is large and strong, of a shining black, notched near the tip, and three inches long; the cetaceous feathers which cover the nostrils extend half its

* Latham.

† Medley's Kolben, vol. ii, p. 136.

‡ Voy. in the Indian Ocean, p. 148.

§ Voy. par I. F. G. De la Pérouse, ii, p. 129. 203. 443.

|| Cook's last voy. ii, p. 236. Am. ed.

¶ Idem, iii, p. 329.

** Gass's Journal, p. 153.

†† Charlevoix. Kalm. Hearne's Journey. ‡‡ Fernandez.

length; the eyes are black; the general colour is a deep glossy black, with steel-blue reflections; the lower parts are less glossy; the tail is rounded, and extends about two inches beyond the wings; the legs are two inches and a half in length, and, with the feet, are strong and black; the claws are long.

This bird is said to attain to a great age; and its plumage to be subject to change from the influence of years and of climate. It is found in Iceland and Greenland entirely white.

The raven was the constant attendant of Lewis and Clark's party in their long and toilsome journey. During the winter, at Fort Mandan, they were observed in immense numbers, notwithstanding the cold was so excessive, that on the 17th December, 1804, the thermometer stood at 45° below 0.

Like the crow, this species may be easily domesticated, and in that state would afford amusement by its familiarity, frolics, and sagacity. But such noisy and mischievous pets, in common with parrots and monkeys, are not held in high estimation in this quarter of the globe; and are generally overlooked for those universal favourites, which either gratify the eye by the neatness or brilliancy of their plumage, or gladden the ear by the simplicity or variety of their song.

59. *CORVUS CORONE*, LINNÆUS. — CROW.

WILSON, PLATE XXXVI. FIG. III.

THIS is perhaps the most generally known, and least beloved, of all our land birds; having neither melody of song, nor beauty of plumage, nor excellence of flesh, nor civility of manners, to recommend him; on the contrary, he is branded as a thief and a plunderer; a kind of black-coated vagabond, who hovers over the fields of the industrious, fattening on their labours; and, by his voracity, often blasting their expectations. Hated as he is by the farmer, watched and persecuted

by almost every bearer of a gun, who all triumph in his destruction, had not Heaven bestowed on him intelligence and sagacity far beyond common, there is reason to believe, that the whole tribe (in these parts at least) would long ago have ceased to exist.

The crow is a constant attendant on agriculture, and a general inhabitant of the cultivated parts of North America. In the interior of the forest he is more rare, unless during the season of breeding. He is particularly attached to low flat corn countries, lying in the neighbourhood of the sea, or of large rivers; and more numerous in the northern than southern states, where vultures abound, and with whom the crows are unable to contend. A strong antipathy, it is also said, prevails between the crow and the raven, insomuch, that where the latter are numerous, the former rarely resides. Many of the first settlers of the Genessee country have informed me, that, for a long time, ravens were numerous with them, but no crows; and even now the latter are seldom observed in that country. In travelling from Nashville to Natchez, a distance of four hundred and seventy miles, I saw few or no crows, but ravens frequently, and vultures in great numbers.

The usual breeding time of the crow, in Pennsylvania, is in March, April, and May, during which season they are dispersed over the woods in pairs, and roost in the neighbourhood of the tree they have selected for their nest. About the middle of March they begin to build, generally choosing a high tree; though I have also known them prefer a middle sized cedar. One of their nests, now before me, is formed externally of sticks, wet moss, thin bark mixed with mossy earth, and lined with large quantities of horse hair, to the amount of more than half a pound, some cow hair, and some wool, forming a very soft and elastic bed. The eggs are four, of a pale green colour, marked with numerous specks and blotches of olive.

During this interesting season, the male is extremely watchful, making frequent excursions of half a mile or so in circuit, to reconnoitre; and the instant he observes

a person approaching, he gives the alarm, when both male and female retire to a distance till the intruder has gone past. He also regularly carries food to his mate, while she is sitting; occasionally relieves her; and when she returns, again resigns his post. At this time, also, as well as until the young are able to fly, they preserve uncommon silence, that their retreat may not be suspected.

It is in the month of May, and until the middle of June, that the crow is most destructive to the corn fields, digging up the newly planted grains of maize, pulling up by the roots those that have begun to vegetate, and thus frequently obliging the farmer to replant, or lose the benefit of the soil; and this sometimes twice, and even three times, occasioning a considerable additional expense, and inequality of harvest. No mercy is now shewn him. The myriads of worms, moles, mice, caterpillars, grubs, and beetles, which he has destroyed, are altogether overlooked on these occasions. Detected in robbing the hens' nests, pulling up the corn, and killing the young chickens, he is considered as an outlaw, and sentenced to destruction. But the great difficulty is, how to put this sentence in execution. In vain the gunner skulks along the hedges and fences; his faithful sentinels, planted on some commanding point, raise the alarm, and disappoint vengeance of its object. The coast again clear, he returns once more in silence to finish the repast he had begun. Sometimes he approaches the farm house by stealth, in search of young chickens, which he is in the habit of snatching off, when he can elude the vigilance of the mother hen, who often proves too formidable for him. A few days ago, a crow was observed eagerly attempting to seize some young chickens in an orchard, near the room where I write; but these clustering close round the hen, she resolutely defended them, drove the crow into an apple tree, whither she instantly pursued him with such spirit and intrepidity, that he was glad to make a speedy retreat, and abandon his design.

The crow himself sometimes falls a prey to the

superior strength and rapacity of the great owl, whose weapons of offence are by far the more formidable of the two.*

* "A few years ago," says an obliging correspondent, "I resided on the banks of the Hudson, about seven miles from the city of New York. Not far from the place of my residence was a pretty thick wood or swamp, in which great numbers of crows, who used to cross the river from the opposite shore, were accustomed to roost. Returning homeward one afternoon, from a shooting excursion, I had occasion to pass through this swamp. It was near sunset, and troops of crows were flying in all directions over my head. While engaged in observing their flight, and endeavouring to select from among them an object to shoot at, my ears were suddenly assailed by the distressful cries of a crow, who was evidently struggling under the talons of a merciless and rapacious enemy. I hastened to the spot whence the sounds proceeded, and, to my great surprise, found a crow lying on the ground, just expiring, and seated upon the body of the yet warm and bleeding quarry, a *large brown owl*, who was beginning to make a meal of the unfortunate robber of corn fields. Perceiving my approach, he forsook his prey with evident reluctance, and flew into a tree at a little distance, where he sat watching all my movements, alternately regarding, with longing eyes, the victim he had been forced to leave, and darting at me no very friendly looks, that seemed to reproach me for having deprived him of his expected regale. I confess that the scene before me was altogether novel and surprising. I am but little conversant with natural history; but I had always understood, that the depredations of the owl were confined to the smaller birds and animals of the lesser kind, such as mice, young rabbits, &c. and that he obtained his prey rather by fraud and stratagem, than by open rapacity and violence. I was the more confirmed in this belief, from the recollection of a passage in *Macbeth*, which now forcibly occurred to my memory, — The courtiers of King Duncan are recounting to each other the various prodigies that preceded his death, and one of them relates to his wondering auditors, that

An eagle, towering in his pride of place,
Was by a *mousing owl*, hawk'd at and kill'd.

But to resume my relation — That the owl was the murderer of the unfortunate crow, there could be no doubt. No other bird of prey was in sight; I had not fired my gun since I entered the wood; nor heard any one else shoot: besides, the unequivocal situation in which I found the parties, would have been sufficient before any 'twelve good men and true,' or a jury of crows, to have convicted him of his guilt. It is proper to add, that I avenged the death of the hapless crow, by a well aimed shot at the felonious robber, that extended him breathless on the ground."

Towards the close of summer, the parent crows, with their new families, forsaking their solitary lodgings collect together, as if by previous agreement, when evening approaches. About an hour before sunset, they are first observed, flying, somewhat in Indian file, in one direction, at a short height above the tops of the trees: silent and steady, keeping the general curvature of the ground, continuing to pass sometimes till after sunset so that the whole line of march would extend for many miles. This circumstance, so familiar and picturesque has not been overlooked by the poets, in their descriptions of a rural evening. Burns, in a single line, has finely sketched it:—

The blackening trains of crows to their repose.

The most noted crow roost that I am acquainted with is near Newcastle, on an island in the Delaware. It is there known by the name of the Pea Patch, and is a low flat alluvial spot, of a few acres, elevated but little above high water mark, and covered with a thick growth of reeds. This appears to be the grand rendezvous, or head-quarters, of the greater part of the crow within forty or fifty miles of the spot. It is entirely destitute of trees, the crows alighting and nesting among the reeds, which by these means are broken down and matted together. The noise created by those multitudes, both in their evening assembly, and reassembly in the morning, and the depredations they commit in the immediate neighbourhood of this great resort are almost incredible. Whole fields of corn are sometimes laid waste by thousands alighting on it at once with appetites whetted by the fast of the preceding night; and the utmost vigilance is unavailing to prevent, at least, a partial destruction of this their favourite grain. Like the stragglers of an immense, undisciplined and rapacious army, they spread themselves over the fields, to plunder and destroy wherever they alight. It is here that the character of the crow is universally execrated; and to say to the man who has lost his crop of corn by these birds, that crows are exceedingly

useful for destroying vermin, would be as consolatory as to tell him who had just lost his house and furniture by the flames, that fires are excellent for destroying bugs.

The strong attachment of the crows to this spot may be illustrated by the following circumstance: Some years ago, a sudden and violent northeast storm came on during the night, and the tide, rising to an uncommon height, inundated the whole island. The darkness of the night, the suddenness and violence of the storm, and the incessant torrents of rain that fell, it is supposed, so intimidated the crows, that they did not attempt to escape, and almost all perished. Thousands of them were next day seen floating in the river; and the wind, shifting to the northwest, drove their dead bodies to the Jersey side, where for miles they blackened the whole shore.

This disaster, however, seems long ago to have been repaired; for they now congregate on the Pea Patch in as immense multitudes as ever.*

So universal is the hatred to crows, that few states either here or in Europe, have neglected to offer rewards for their destruction. In the United States, they have been repeatedly ranked in our laws with the wolves, the panthers, foxes, and squirrels, and a proportionable premium offered for their heads, to be paid by any justice of the peace to whom they are delivered. On

* The following is extracted from the late number of a newspaper printed in that neighbourhood;—

“The farmers of Red Lion Hundred held a meeting at the village of St George’s, in the state of Delaware, on Monday the 6th inst. to receive proposals of John Deputy, on a plan for banishing or destroying the crows. Mr Deputy’s plan, being heard and considered, was approved, and a committee appointed to contract with him, and to procure the necessary funds to carry the same into effect. Mr Deputy proposes, that for five hundred dollars he will engage to kill or banish the crows from their roost on the Pea Patch, and give security to return the money on failure.

“The sum of five hundred dollars being thus required, the committee beg leave to address the farmers and others of Newcastle county and elsewhere on the subject.”

all these accounts, various modes have been invented for capturing them. They have been taken in clap nets, commonly used for taking pigeons; two or three live crows being previously procured as decoys, or, as they are called, *stool-crows*. Corn has been steeped in a strong decoction of hellebore, which, when eaten by them, produces giddiness, and finally, it is said, death. Pieces of paper formed into the shape of a hollow cone, besmeared within with birdlime, and a grain or two of corn dropt on the bottom, have also been adopted. Numbers of these being placed on the ground, where corn has been planted, the crows, attempting to reach the grains, are instantly hoodwinked, fly directly upwards to a great height; but generally descend near the spot whence they rose, and are easily taken. The reeds of their roosting places are sometimes set on fire during a dark night, and the gunners having previously posted themselves around, the crows rise in great uproar, and, amidst the general consternation, by the light of the burnings, hundreds of them are shot down.

Crows have been employed to catch crows by the following stratagem: A live crow is pinned by the wings down to the ground on his back, by means of two sharp, forked sticks. Thus situated, his cries are loud and incessant, particularly if any other crows are within view. These, sweeping down about him, are instantly grappled by the prostrate prisoner, by the same instinctive impulse that urges a drowning person to grasp at every thing within his reach. Having disengaged the game from his clutches, the trap is again ready for another experiment; and by pinning down each captive, successively, as soon as taken, in a short time you will probably have a large flock screaming above you, in concert with the outrageous prisoners below. Many farmers, however, are content with hanging up the skins, or dead carcasses, of crows in their corn fields, *in terrorem*; others depend altogether on the gun, keeping one of their people supplied with ammunition, and constantly on the look out. In hard winters the crows suffer severely; so that they have

been observed to fall down in the fields, and on the roads, exhausted with cold and hunger. In one of these winters, and during a long continued deep snow, more than six hundred crows were shot on the carcass of a dead horse, which was placed at a proper distance from the stable, from a hole of which the discharges were made. The premiums awarded for these, with the price paid for the quills, produced nearly as much as the original value of the horse, besides, as the man himself assured me, saving feathers sufficient for filling a bed.

The crow is easily raised and domesticated; and it is only when thus rendered unsuspicious of, and placed on terms of familiarity with, man, that the true traits of his genius and native disposition fully develop themselves. In this state he soon learns to distinguish all the members of the family; flies towards the gate, screaming, at the approach of a stranger; learns to open the door by alighting on the latch; attends regularly at the stated hours of dinner and breakfast, which he appears punctually to recollect; is extremely noisy and loquacious; imitates the sound of various words pretty distinctly; is a great thief and hoarder of curiosities, hiding in holes, corners, and crevices, every loose article he can carry off, particularly small pieces of metal, corn, bread, and food of all kinds; is fond of the society of his master, and will know him even after a long absence, of which the following is a remarkable instance, and may be relied on as a fact: A very worthy gentleman, now [1811] living in the Genesee country, but who, at the time alluded to, resided on the Delaware, a few miles below Easton, had raised a crow, with whose tricks and society he used frequently to amuse himself. This crow lived long in the family; but at length disappeared, having, as was then supposed, been shot by some vagrant gunner, or destroyed by accident. About eleven months after this, as the gentleman, one morning, in company with several others, was standing on the river shore, a number of crows happening to pass by, one of them left the flock, and flying directly towards the company, alighted on the gentle-

man's shoulder, and began to gabble away with great volubility, as one long absent friend naturally enough does on meeting with another. On recovering from his surprise, the gentleman instantly recognized his old acquaintance, and endeavoured, by several civil but sly manœuvres, to lay hold of him; but the crow, not altogether relishing quite so much familiarity, having now had a taste of the sweets of liberty, cautiously eluded all his attempts; and suddenly glancing his eye on his distant companions, mounted in the air after them, soon overtook and mingled with them, and was never afterwards seen to return.

The habits of the crow in his native state are so generally known as to require little farther illustration. His watchfulness, and jealous sagacity in distinguishing a person with a gun, are notorious to every one. In spring, when he makes his appearance among the groves and low thickets, the whole feathered songsters are instantly alarmed, well knowing the depredations and murders he commits on their nests, eggs, and young. Few of them, however, have the courage to attack him, except the king-bird, who on these occasions teases and pursues him from place to place, diving on his back while high in air, and harassing him for a great distance. A single pair of these noble spirited birds, whose nest was built near, have been known to protect a whole field of corn from the depredations of the crows, not permitting one to approach it.

The crow is eighteen inches and a half long, and three feet two inches in extent; the general colour is a shining glossy blue black, with purplish reflections; the throat and lower parts are less glossy; the bill and legs, a shining black, the former two inches and a quarter long, very strong, and covered at the base with thick tufts of recumbent feathers; the wings, when shut, reach within an inch and a quarter of the tip of the tail, which is rounded; fourth primary, the longest; secondaries scalloped at the ends, and minutely pointed, by the prolongation of the shaft; iris, dark hazel.

The above description agrees so nearly with the

European species, as to satisfy me, that they are the same ; though the voice of ours is said to be less harsh, not unlike the barking of a small spaniel : the pointedness of the ends of the tail feathers, mentioned by European naturalists, and occasioned by the extension of the shafts, is rarely observed in the present species ; though always very observable in the secondaries.

The female differs from the male in being more dull coloured, and rather deficient in the glossy and purplish tints and reflections. The difference, however, is not great.

Besides grain, insects, and carrion, they feed on frogs, tadpoles, small fish, lizards, and shell fish ; with the latter they frequently mount to a great height, dropping them on the rocks below, and descending after them to pick up the contents. The same habit is observable in the gull, the raven, and sea-side crow. Many other aquatic insects, as well as marine plants, furnish him with food ; which accounts for their being so generally found, and so numerous, on the sea-shore, and along the banks of our large rivers.

60. *CORVUS OSSIFRAGUS*, WILSON. — FISH CROW.

WILSON, PLATE XXXVII. FIG. II.

THIS roving inhabitant of our sea-coasts, ponds, and river shores, is much less distinguished than the fish-hawk, this being the first time, as far as I can learn, that he has ever been introduced to the notice of the world.

I first met with this species on the sea-coast of Georgia, and observed that they regularly retired to the interior as evening approached, and came down to the shores of the river Savannah by the first appearance of day. Their voice first attracted my notice, being very different from that of the common crow, more hoarse and guttural, uttered as if something stuck in their throat, and varied into several modulations as they flew along. Their manner of flying was also unlike the

others, as they frequently sailed about, without flapping the wings, something in the manner of the raven; and I soon perceived that their food, and their mode of procuring it, were also both different: their favourite haunts being about the banks of the river, along which they usually sailed, dexterously snatching up, with their claws, dead fish, or other garbage, that floated on the surface. At the country seat of Stephen Elliot, Esq. near the Ogeechee river, I took notice of these crows frequently perching on the backs of the cattle, like the magpie and jackdaw of Britain; but never mingling with the common crows, and differing from them in this particular, that the latter generally retire to the shore, the reeds, and marshes, to roost, while the fish-crow always, a little before sunset, seeks the interior high woods to repose in.

On my journey through the Mississippi territory last year, I resided for some time at the seat of my hospitable friend, Dr Samuel Brown, a few miles from Fort Adams, on the Mississippi. In my various excursions there, among the lofty fragrance-breathing magnolia woods, and magnificent scenery, that adorn the luxuriant face of nature in those southern regions, this species of crow frequently made its appearance, distinguished by the same voice and habits it had in Georgia. There is, in many of the ponds there, a singular kind of lizard, that swims about, with its head above the surface, making a loud sound, not unlike the harsh jarring of a door. These the crow now before us would frequently seize with his claws, as he flew along the surface, and retire to the summit of a dead tree to enjoy his repast. Here I also observed him a pretty constant attendant at the pens where the cows were usually milked, and much less shy, less suspicious, and more solitary than the common crow. In the county of Cape May, New Jersey, I again met with these crows, particularly along Egg-Harbour river; and latterly on the Schuylkill and Delaware, near Philadelphia, during the season of shad and herring fishing, viz. from the middle of March til the beginning of June. A small party of these crows

during this period, regularly passed Mr Bartram's gardens to the high woods to roost, every evening a little before sunset, and as regularly returned, at or before sunrise every morning, directing their course towards the river. The fishermen along these rivers also inform me, that they have particularly remarked this crow, by his croaking voice, and his fondness for fish; almost always hovering about their fishing places to glean up the refuse. Of their manner of breeding I can only say, that they separate into pairs, and build in tall trees near the sea or river shore; one of their nests having been built this season in a piece of tall woods near Mr Beasley's, at Great Egg-Harbour. From the circumstance of six or seven being usually seen here together in the month of July, it is probable that they have at least four or five young at a time.

I can find no description of this species by any former writer. Mr Bartram mentions a bird of this tribe, which he calls the *great sea-side crow*; but the present species is considerably inferior in size to the common crow, and having myself seen and examined it in so many and remotely situated parts of the country, and found it in all these places alike, I have no hesitation in pronouncing it to be a new and hitherto undescribed species.

The fish crow is sixteen inches long, and thirty-three in extent; black all over, with reflections of steel-blue and purple; the chin is bare of feathers around the base of the lower mandible; upper mandible notched near the tip, the edges of both turned inwards about the middle; eye, very small, placed near the corner of the mouth, and of a dark hazel colour; recumbent hairs or bristles, large and long; ear-feathers, prominent; first primary little more than half the length, fourth the longest; wings, when shut, reach within two inches of the tip of the tail; tail, rounded, and seven inches long from its insertion; thighs, very long; legs, stout; claws, sharp, long and hooked, hind one the largest, all jet black. Male and female much alike.

I would beg leave to recommend to the watchful

farmers of the United States, that, in their honest indignation against the common crow, they would spare the present species, and not shower destruction indiscriminately on their black friends and enemies; at least on those who *sometimes* plunder them, and those who never molest or injure their property.

61. *CORVUS COLUMBIANUS*, WILS. — CLARK'S CROW.

WILSON, PLATE XX. FIG. II.

THIS species resembles, a little, the jackdaw of Europe (*corvus monedula*); but is remarkable for its formidable claws, which approach to those of the falco genus; and would seem to intimate that its food consists of living animals, for whose destruction these weapons must be necessary. In conversation with different individuals of the party,* I understood that this bird inhabits the shores of the Columbia, and the adjacent country, in great numbers, frequenting the rivers and sea-shore, probably feeding on fish; and that it has all the gregarious and noisy habits of the European species, several of the party supposing it to be the same. The following description was taken with particular care, after a minute examination and measurement of the only preserved skin that was saved; and which is now deposited in Mr Peale's museum:

This bird measures thirteen inches in length; the wings, the two middle tail feathers, and the interior vanes of the next, (except at the tip,) are black, glossed with steel-blue; all the secondaries, except the three next the body, are white for an inch at their extremities, forming a large spot of white on that part, when the wing is shut; the tail is rounded; yet the two middle feathers are somewhat shorter than those adjoining; all the rest are pure white, except as already described; the general colour of the head, neck, and

* The exploring party, under Captains Clark and Lewis, mentioned at p. 168, by which this bird was discovered.

body, above and below, is a light silky drab, darkening almost to a dove colour on the breast and belly; vent, white; claws, black, large, and hooked, particularly the middle and hind claw; legs, also black; bill, a dark horn colour; iris of the eye, unknown.

In the state of Georgia, and several parts of West Florida, I discovered a crow, not hitherto taken notice of by naturalists, rather larger than the present species, but much resembling it in the form and length of its wings, in its tail, and particularly its claws. This bird is a constant attendant along the borders of streams and stagnating ponds, feeding on small fish and lizards, which I have many times seen him seize as he swept along the surface. A well preserved specimen of this bird was presented to Mr Peale, and is now in his museum. It is highly probable, that, with these external resemblances, the habits of both may be nearly alike.

SUBGENUS II. — *PICA*, BRISSON.

62. *CORVUS PICA*. — MAGPIE.

WILSON, PLATE XXXV. FIG. II.

This bird is much better known in Europe than in this country, where it has not been long discovered; although it is now found to inhabit a wide extent of territory, and in great numbers. The description was taken from a very beautiful specimen, sent from the Mandan nation, on the Missouri, to Mr Jefferson, and by that gentleman to Mr Peale of this city, in whose museum it lived for several months, and where I had an opportunity of examining it. On carefully comparing it with the European magpie in the same collection, no material difference could be perceived.

This bird unites in its character courage and cunning, turbulence and rapacity. Not inelegantly formed, and distinguished by gay as well as splendid plumage, he has long been noted in those countries where he commonly resides, and his habits and manners are there

familiarly known. He is particularly pernicious to plantations of young oaks, tearing up the acorns; and also to birds, destroying great numbers of their eggs and young, even young chickens, partridges, grouse, and pheasants. It is perhaps on this last account that the whole vengeance of the game laws has lately been let loose upon him in some parts of Britain, as appears by accounts from that quarter, where premiums, it is said, are offered for his head, as an arch poacher; and penalties inflicted on all those who permit him to breed on their premises. Under the lash of such rigorous persecution, a few years will probably exterminate the whole tribe from the island. He is also destructive to gardens and orchards; is noisy and restless, almost constantly flying from place to place; alights on the backs of the cattle, to rid them of the larvæ that fester in the skin; is content with carrion when nothing better offers; eats various kinds of vegetables, and devours greedily grain, worms, and insects of almost every description. When domesticated, he is easily taught to imitate the human voice, and to articulate words pretty distinctly; has all the pilfering habits of his tribe, filling every chink, nook, and crevice, with whatever he can carry off; is subject to the epilepsy, or some similar disorder; and is, on the whole, a crafty, restless, and noisy bird.

He generally selects a tall tree, adjoining the farm house, for his nest, which is placed among the highest branches; this is large, composed outwardly of sticks, roots, turf, and dry weeds, and well lined with wool, cow hair, and feathers; the whole is surrounded, roofed, and barricaded with thorns, leaving only a narrow entrance. The eggs are usually five, of a greenish colour, marked with numerous black or dusky spots. In the northern parts of Europe, he migrates at the commencement of winter.

In this country, the magpie was first taken notice of at the factories, or trading houses, on Hudson's Bay, where the Indians used sometimes to bring it in, and gave it the name of Heart-bird,—for what reason is

uncertain. It appears, however, to be rather rare in that quarter. These circumstances are taken notice of by Mr Pennant and other British naturalists.

In 1804, the exploring party under the command of Captains Lewis and Clark, on their route to the Pacific Ocean across the continent, first met with the magpie somewhere near the great bend of the Missouri, and found that the number of these birds increased as they advanced. Here also the blue jay disappeared; as if the territorial boundaries and jurisdiction of these two noisy and voracious families of the same tribe had been mutually agreed on, and distinctly settled. But the magpie was found to be far more daring than the jay, dashing into their very tents, and carrying off the meat from the dishes. One of the hunters who accompanied the expedition informed me, that they frequently attended him while he was engaged in skinning and cleaning the carcass of the deer, bear, or buffalo he had killed, often seizing the meat that hung within a foot or two of his head. On the shores of the Kooskoos-ke river, on the west side of the great range of rocky mountains, they were found to be equally numerous.

It is highly probable that those vast plains or prairies, abounding with game and cattle, frequently killed for the mere hides, tallow, or even marrow bones, may be one great inducement for the residency of these birds, so fond of flesh and carrion. Even the rigorous severity of winter in the high regions along the head waters of Rio du Nord, the Arkansas, and Red River, seems insufficient to force them from those favourite haunts; though it appears to increase their natural voracity to a very uncommon degree. Colonel Pike relates, that in the month of December, in the neighbourhood of the North Mountain, N. lat. 41° W. long. 34° , Reaumur's thermometer standing at 17° below 0, these birds were seen in great numbers. "Our horses," says he, "were obliged to scrape the snow away to obtain their miserable pittance; and, to increase their misfortunes, the poor animals were attacked by the magpies, who, attracted by the scent of their sore backs, alighted on

them, and, in defiance of their wincing and kicking, picked many places quite raw. The difficulty of procuring food rendered those birds so bold, as to alight on our men's arms, and eat meat out of their hands."*

The magpie is eighteen inches in length; the head, neck, upper part of the breast and back, are a deep velvety black; primaries, brownish black, streaked along their inner vanes with white; secondaries, rich purplish blue; greater coverts, green blue; scapulars, lower part of the breast and belly, white; thighs and vent, black; tail, long; the two exterior feathers scarcely half the length of the longest, the others increasing to the two middle ones, which taper towards their extremities. The colour of this part of the plumage is very splendid, being glossy green, dashed with blue and bright purple; this last colour bounds the green; nostrils, covered with a thick tuft of recumbent hairs, as are also the sides of the mouth; bill, legs, and feet, glossy black. The female differs only in the less brilliancy of her plumage.

SUBGENUS II. — *GARRULUS*, BRISSON.

63. *CORVUS CRISTATUS*, LINN. — BLUE JAY.

WILSON, PLATE I. FIG. I.

THIS elegant bird, which, as far as I can learn, is peculiar to North America, is distinguished as a kind of beau among the feathered tenants of our woods, by the brilliancy of his dress; and, like most other cock-combs, makes himself still more conspicuous by his loquacity, and the oddness of his tones and gestures. The jay measures eleven inches in length; the head is ornamented with a crest of light blue or purple feathers, which he can elevate or depress at pleasure; a narrow line of black runs along the frontlet, rising on each side higher than the eye, but not passing over it, as

Catesby has represented, and as Pennant and many

* Pike's *Journal*, p. 170.

others have described it; back and upper part of the neck, a fine light purple, in which the blue predominates; a collar of black, proceeding from the hind head, passes with a graceful curve down each side of the neck to the upper part of the breast, where it forms a crescent; chin, cheeks, throat, and belly, white, the three former slightly tinged with blue; greater wing-coverts, a rich blue; exterior sides of the primaries, light blue, those of the secondaries, a deep purple, except the three feathers next the body, which are of a splendid light blue; all these, except the primaries, are beautifully barred with crescents of black, and tipped with white; the interior sides of the wing feathers are dusky black; tail long and cuneiform, composed of twelve feathers of a glossy light blue, marked at half inches with transverse curves of black, each feather being tipped with white, except the two middle ones, which deepen into a dark purple at the extremities. Breast and sides under the wings, a dirty white, faintly stained with purple; inside of the mouth, the tongue, bill, legs, and claws, black; iris of the eye, hazel.

The blue jay is an almost universal inhabitant of the woods, frequenting the thickest settlements as well as the deepest recesses of the forest, where his squalling voice often alarms the deer, to the disappointment and mortification of the hunter,—one of whom informed me, that he made it a point, in summer, to kill every jay he could meet with. In the charming season of spring, when every thicket pours forth harmony, the part performed by the jay always catches the ear. He appears to be among his fellow musicians what the trumpeter is in a band, some of his notes having no distant resemblance to the tones of that instrument. These he has the faculty of changing through a great variety of modulations, according to the particular humour he happens to be in. When disposed for ridicule, there is scarce a bird whose peculiarities of song he cannot tune his notes to. When engaged in the blandishments of love, they resemble the soft chattering of a duck, and, while he nestles among the thick

branches of the cedar, are scarce heard at a few paces distance; but he no sooner discovers your approach than he sets up a sudden and vehement outcry, flying off, and screaming with all his might, as if he called the whole feathered tribes of the neighbourhood to witness some outrageous usage he had received. When he hops undisturbed among the high branches of the oak and hickory, they become soft and musical; and his calls of the female a stranger would readily mistake for the repeated squeakings of an ungreased wheelbarrow. All these he accompanies with various nods, jerks, and other gesticulations, for which the whole tribe of jays are so remarkable, that, with some other peculiarities, they might have very well justified the great Swedish naturalist in forming them into a separate genus by themselves.

The blue jay builds a large nest, frequently in the cedar, sometimes on an apple-tree, lines it with dry fibrous roots, and lays five eggs of a dull olive, spotted with brown. The male is particularly careful of not being heard near the place, making his visits as silently and secretly as possible. His favourite food is chestnuts, acorns, and Indian corn. He occasionally feeds on bugs and caterpillars, and sometimes pays a plundering visit to the orchard, cherry rows, and potato patch; and has been known, in times of scarcity, to venture into the barn, through openings between the weather boards. In these cases he is extremely active and silent, and, if surprised in the fact, makes his escape with precipitation, but without noise, as if conscious of his criminality.

Of all birds he is the most bitter enemy to the owl. No sooner has he discovered the retreat of one of these, than he summons the whole feathered fraternity to his assistance, who surround the glimmering *solitaire*, and attack him from all sides, raising such a shout as may be heard, in a still day, more than half a mile off. When, in my hunting excursions, I have passed near this scene of tumult, I have imagined to myself that I heard the insulting party venting their respective charges

with all the virulency of a Billingsgate mob ; the owl, meanwhile, returning every compliment with a broad goggling stare. The war becomes louder and louder, and the owl at length, forced to betake himself to flight, is followed by his whole train of persecutors, until driven beyond the boundaries of their jurisdiction.

But the blue jay himself is not guiltless of similar depredations with the owl, and becomes in his turn the very tyrant he detested, when he sneaks through the woods, as he frequently does, and among the thickets and hedge-rows, plundering every nest he can find of its eggs, tearing up the callow young by piecemeal, and spreading alarm and sorrow around him. The cries of the distressed parents soon bring together a number of interested spectators (for birds in such circumstances seem truly to sympathize with each other,) and he is sometimes attacked with such spirit as to be under the necessity of making a speedy retreat.

He will sometimes assault small birds, with the intention of killing and devouring them ; an instance of which I myself once witnessed, over a piece of woods near the borders of Schuylkill ; where I saw him engaged for more than five minutes pursuing what I took to be a species of motacilla (*m. maculosa*, yellow rump,) wheeling, darting, and doubling in the air, and, at last, to my great satisfaction, got disappointed, in the escape of his intended prey. In times of great extremity, when his hoard or magazine is frozen up, buried in snow, or perhaps exhausted, he becomes very voracious, and will make a meal of whatever carrion or other animal substance comes in the way, and has been found regaling himself on the bowels of a robin (*turdus migratorius*) in less than five minutes after it was shot.

There are, however, individual exceptions to this general character for plunder and outrage, a proneness for which is probably often occasioned by the wants and irritations of necessity. A blue jay, which I have kept for some time, and with whom I am on terms of familiarity, is in reality a very notable example of mildness of disposition and sociability of manners. An

accident in the woods first put me in possession of this bird, while in full plumage, and in high health and spirits; I carried him home with me, and put him into a cage already occupied by a golden-winged woodpecker (*picus auratus*), where he was saluted with such rudeness, and received such a drubbing from the lord of the manor, for entering his premises, that, to save his life, I was obliged to take him out again. I then put him into another cage, where the only tenant was a female *oriolus spurius* (bastard baltimore.) She also put on airs of alarm, as if she considered herself endangered and insulted by the intrusion; the jay, meanwhile, sat mute and motionless on the bottom of the cage, either dubious of his own situation, or willing to allow time for the fears of his neighbour to subside. Accordingly, in a few minutes, after displaying various threatening gestures (like some of those Indians we read of in their first interviews with the whites,) she began to make her approaches, but with great circumspection, and readiness for retreat. Seeing, however, the jay begin to pick up some crumbs of broken chestnuts, in a humble and peaceable way, she also descended, and began to do the same; but, at the slightest motion of her new guest, wheeled round, and put herself on the defensive. All this ceremonious jealousy vanished before evening; and they now roost together, feed, and play together, in perfect harmony and good humour. When the jay goes to drink, his messmate very impudently jumps into the saucer to wash herself, throwing the water in showers over her companion, who bears it all patiently; venturing now and then to take a sip between every splash, without betraying the smallest token of irritation. On the contrary, he seems to take pleasure in his little fellow-prisoner, allowing her to pick (which she does very gently) about his whiskers, and to clean his claws from the minute fragments of chestnuts which happen to adhere to them. This attachment on the one part, and mild condescension on the other, may, perhaps, be partly the effect of mutual misfortunes, which are found not only to knit

mankind, but many species of inferior animals, more closely together; and shews that the disposition of the blue jay may be humanized, and rendered susceptible of affectionate impressions, even for those birds which, in a state of nature, he would have no hesitation in making a meal of.

He is not only bold and vociferous, but possesses a considerable talent for mimicry, and seems to enjoy great satisfaction in mocking and teasing other birds, particularly the little hawk (*f. Sparverius*.) imitating his cry wherever he sees him, and squealing out as if caught: this soon brings a number of his own tribe around him, who all join in the frolic, darting about the hawk, and feigning the cries of a bird sorely wounded, and already under the clutches of its devourer; while others lie concealed in bushes, ready to second their associates in the attack. But this ludicrous farce often terminates tragically. The hawk, singling out one of the most insolent and provoking, sweeps upon him in an unguarded moment, and offers him up a sacrifice to his hunger and resentment. In an instant the tune is changed; all their buffoonery vanishes, and loud and incessant screams proclaim their disaster.

Wherever the jay has had the advantage of education from man, he has not only shewn himself an apt scholar, but his suavity of manners seems equalled only by his art and contrivances; though it must be confessed, that his itch for thieving keeps pace with all his other acquirements. Dr Mease, on the authority of Colonel Postell, of South Carolina, informs me, that a blue jay which was brought up in the family of the latter gentleman, had all the tricks and loquacity of a parrot; pilfered every thing he could conveniently carry off, and hid them in holes and crevices; answered to his name with great sociability, when called on; could articulate a number of words pretty distinctly; and, when he heard any uncommon noise, or loud talking, seemed impatient to contribute his share to the general festivity (as he probably thought it) by a display of all the oratorical powers he was possessed of

Mr Bartram relates an instance of the jay's sagacity, worthy of remark. "Having caught a jay in the winter season," says he, "I turned him loose in the green-house, and fed him with corn, (zea, maize,) the heart of which they are very fond of. This grain being ripe and hard, the bird at first found a difficulty in breaking it, as it would start from his bill when he struck it. After looking about, and, as if considering for a moment, he picked up his grain, carried and placed it close up in a corner on the shelf, between the wall and a plant box, where, being confined on three sides, he soon effected his purpose, and continued afterwards to make use of this same practical expedient. The jay," continues this judicious observer, "is one of the most useful agents in the economy of nature, for disseminating forest trees, and other ruciferous and hard-seeded vegetables on which they feed. Their chief employment, during the autumnal season, is foraging to supply their winter stores. In performing this necessary duty, they drop abundance of seed in their flight over fields, hedges, and by fences, where they alight to deposit them in the post holes, &c. It is remarkable what numbers of young trees rise up in fields and pastures after a wet winter and spring. These birds alone are capable, in a few years' time, to replant all the cleared lands."*

The blue jays seldom associate in any considerable numbers, except in the months of September and October, when they hover about, in scattered parties of from forty to fifty, visiting the oaks, in search of their favourite acorns. At this season they are less shy than usual, and keep chattering to each other in a variety of strange and querulous notes. I have counted fifty-three, but never more, at one time; and these generally following each other in straggling irregularly from one range of woods to another. Yet we are told by the learned Dr Latham, — and his statement has been copied into many respectable European publications, — that the

* Letter of Mr William Bartram to the author.

blue jays of North America "often unite into flocks of twenty thousand at least! which, alighting on a field of ten or twelve acres, soon lay waste the whole."* If this were really so, these birds would justly deserve the character he gives them, of being the most destructive species in America. But I will venture the assertion, that the tribe *oriolus phaniceus*, or red-winged black-birds, in the environs of the river Delaware alone, devour and destroy more Indian corn than the whole blue jays of North America. As to their assembling in such immense multitudes, it may be sufficient to observe, that a flock of blue jays of twenty thousand would be as extraordinary an appearance in America, as the same number of magpies or cuckoos would be in Britain.

It has been frequently said, that numbers of birds are common to the United States and Europe; at present, however, I am not certain of many. Comparing the best descriptions and delineations of the European ones with those of our native birds, said to be of the same species, either the former are very erroneous, or the difference of plumage and habits in the latter justifies us in considering a great proportion of them to be really distinct species. Be this, however, as it may, the blue jay appears to belong exclusively to North America. I cannot find it mentioned by any writer or traveller among the birds of Guiana, Brazil, or any other part of South America. It is equally unknown in Africa. In Europe, and even in the eastern parts of Asia, it is never seen in its wild state. To ascertain the exact limits of its native regions, would be difficult. These, it is highly probable, will be found to be bounded by the extremities of the temperate zone. Dr Latham has indeed asserted, that the blue jay of America is not found farther north than the town of Albany.† This, however, is a mistake. They are common in the eastern

* *Synopsis of Birds*, vol. i. p. 387. See also *Encyclopædia Britannica*, art. *Corvus*.

† *Synopsis*, vol. i. p. 387.

States, and are mentioned by Dr Belknap in his enumeration of the birds of New Hampshire.* They are also natives of Newfoundland. I myself have seen them in Upper Canada. Blue jays and yellow birds were found by Mr McKenzie, when on his journey across the continent, at the head waters of the Unjigah, or Peace river, in N. lat. 54°, W. lon. 121°, on the west side of the great range of stony mountains.† Steller, who, in 1741, accompanied Captain Behring in his expedition, for the discovery of the northwest coast of America, and who wrote the journal of the voyage, relates, that he himself went on shore near cape St Elias, in lat. 58° 28' W. lon. 141° 46', according to his estimation, where he observed several species of birds *not known in Siberia*; and one, in particular, described by Catesby, under the name of the blue jay.‡ Mr William Bartram informs me, that they are numerous in the peninsula of Florida, and that he also found them at Natchez, on the Mississippi. Captain Lewis and Clark, and their intrepid companions, in their memorable expedition across the continent of North America to the Pacific ocean, continued to see blue jays for six hundred miles up the Missouri.§ From these accounts it follows, that this species occupies, generally or partially, an extent of country stretching upwards of seventy degrees from east to west, and more than thirty degrees from north to south; though, from local circumstances, there may be intermediate tracts, in this immense range, which they seldom visit.

* *History of New Hampshire*, vol. iii. p. 163.

† *Voyages from Montreal, &c.* p. 216, 4to. London, 1801.

‡ See STELLER'S *Journal*, *apud Pallas*.

§ This fact I had from Captain Lewis.

mencement of cold weather; he has often remarked its solitary habits; it seemed to seek the most unfrequented, shaded retreats, keeping almost constantly on the ground, yet would sometimes, towards evening, mount to the top of a small tree, and repeat its notes (which a little resemble those of the baltimore,) for a quarter of an hour together; and this it generally did immediately before snow, or falling weather.

FAMILY VIII.

SERICATI, ILLIGER.

GENUS XII. — *BOMBYCILLA*, VIEILL.

65. *BOMBYCILLA CAROLINENSIS*, BRISSON.

AMPELIS AMERICANA, WILSON. — CEDAR BIRD.

WILSON, PL. VII. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

THE plumage of these birds is of an exquisitely fine and silky texture, lying extremely smooth and glossy, Notwithstanding the name *chatterers* given to them, they are perhaps the most silent species we have; making only a feeble, lisping sound, chiefly as they rise or alight. They fly in compact bodies, of from twenty to fifty; and usually alight so close together on the same tree, that one half are frequently shot down at a time. In the months of July and August, they collect together in flocks, and retire to the hilly parts of the State, the Blue Mountains, and other collateral ridges of the Alleghany, to enjoy the fruit of the *vaccinium uliginosum*, whortleberries, which grow there in great abundance; whole mountains, for many miles, being almost entirely covered with them; and where, in the month of August, I have myself found the cedar birds numerous. In October they descend to the lower, cultivated parts of the country, to feed on the berries of the sour gum, and red cedar, of which last they are immoderately fond; and thirty or forty may sometimes be seen fluttering among the branches of one small cedar tree, plucking off the berries. They are also found as far south as Mexico, as appears from the

accounts of Fernandez, Seba,* and others. Fernandez saw them near Tetzeuco, and calls them *coquantotl*; says they delight to dwell in the mountainous parts of the country; and that their flesh and song are both indifferent.† Most of our epicures here are, however, of a different opinion, as to their palatableness; for, in the fall and beginning of summer, when they become very fat, they are in considerable esteem for the table; and great numbers are brought to the market of Philadelphia, where they are sold from twelve to twenty-five cents per dozen. During the whole winter and spring they are occasionally seen; and, about the 25th of May, appear in numerous parties, making great havoc among the early cherries, selecting the best and ripest of the fruit. Nor are they easily intimidated by the presence of Mr Scarecrow; for I have seen a flock deliberately regaling on the fruit of a loaded cherry tree, while on the same tree one of these *guardian angels*, and a very formidable one too, stretched his stiffened arms, and displayed his dangling legs, with all the pomposity of authority! At this time of the season most of our resident birds, and many of our summer visitants, are sitting, or have young; while, even on the 1st of June, the eggs in the ovary of the female cedar bird are no larger than mustard seed; and it is generally the 8th or 10th of that month before they begin to build. These last are curious circumstances, which it is difficult to account for, unless by supposing, that incubation is retarded by a scarcity of suitable food in spring, berries and other fruit being their usual fare. In May, before the cherries are ripe, they are lean, and little else is found in their stomachs than a few shrivelled cedar berries, the refuse of the former season, and a few fragments of beetles and other insects, which do not appear to be their common food; but in June,

* The figure of this bird, in Seba's voluminous work, is too wretched for criticism; it is there called "Oiseau Xomotl, d'Amerique, hupé." Seb. ii. p. 66, t. 65, fig. 5.

† *Hist. Ar. Nov. Hisp.* 55.

while cherries and strawberries abound, they become extremely fat; and, about the 10th or 12th of that month, disperse over the country in pairs to breed; sometimes fixing on the cedar, but generally choosing the orchard for that purpose. The nest is large for the size of the bird, fixed in the forked or horizontal branch of an apple tree, ten or twelve feet from the ground; outwardly, and at bottom, is laid a mass of coarse dry stalks of grass, and the inside is lined wholly with very fine stalks of the same material. The eggs are three or four, of a dingy bluish white, thick at the great end, tapering suddenly, and becoming very narrow at the other; marked with small roundish spots of black of various sizes and shades; and the great end is of a pale dull purple tinge, marked likewise with touches of various shades of purple and black. About the last week in June the young are hatched, and are at first fed on insects and their larvæ; but, as they advance in growth, on berries of various kinds. These facts I have myself been an eye witness to. The female, if disturbed, darts from the nest in silence to a considerable distance; no notes of wailing or lamentation are heard from either parent, nor are they even seen, notwithstanding you are in the tree examining the nest and young. These nests are less frequently found than many others, owing, not only to the comparatively few numbers of the birds, but to the remarkable muteness of the species. The season of love, which makes almost every other small bird musical, has no such effect on them; for they continue, at that interesting period, as silent as before.

This species is also found in Canada, where it is called *recollet*, probably, as Dr Latham supposes, from the colour and appearance of its crest resembling the hood of an order of friars of that denomination; it has also been met with by several of our voyagers on the northwest coast of America, and appears to have an extensive range.

Almost all the ornithologists of Europe persist in

considering this bird as a variety of the European chatterer, (*a. garrulus*,) with what justice or propriety a mere comparison of the two will determine: The European species is very nearly twice the cubic bulk of ours; has the whole lower parts of an uniform dark vinous bay; the tips of the wings streaked with lateral bars of yellow; the nostrils, covered with bristles; * the feathers on the chin, loose and tufted; the wings, black; and the markings of white and black on the sides of the head different from the American, which is as follows:—Length, seven inches, extent, eleven inches; head, neck, breast, upper part of the back and wing-coverts, a dark fawn colour; darkest on the back, and brightest on the front; head, ornamented with a high pointed, almost upright, crest; line from the nostril over the eye to the hind head, velvety black, bordered above with a fine line of white, and another line of white passes from the lower mandible; chin, black, gradually brightening into fawn colour, the feathers there lying extremely close; bill, black; upper mandible, nearly triangular at the base, without bristles, short, rounding at the point, where it is deeply notched; the lower scolloped at the tip, and turning up; tongue, as in the rest of the genus, broad, thin, cartilaginous, and lacerated at the end; belly, yellow; vent, white; wings, deep slate, except the two secondaries next the body, whose exterior vanes are of a fawn colour, and interior ones, white; forming two whitish strips there, which are very conspicuous; rump and tail-coverts, pale light blue; tail, the same, gradually deepening into black, and tipped for half an inch with rich yellow. Six or seven, and sometimes the whole nine, secondary feathers of the wings, are ornamented at the tips with small red oblong appendages, resembling red sealing-wax; these appear to be a prolongation of the shafts, and to be intended for preserving the ends, and consequently the vanes, of the quills, from being broken and worn away

by the almost continual fluttering of the bird among thick branches of the cedar. The feathers of those birds, which are without these appendages, are uniformly found ragged on the edges; but smooth and perfect in those on whom the marks are full and numerous. These singular marks have been usually considered as belonging to the male alone, from the circumstance, perhaps, of finding female birds without them. They are, however, common to both male and female. Six of the latter are now lying before me, each with large and numerous clusters of eggs, and having the waxen appendages in full perfection. The young birds do not receive them until the second fall, when, in moulting time, they may be seen fully formed, as the feather is developed from its sheath. I have once or twice found a solitary one on the extremity of one of the tail feathers. The eye is of a dark blood colour; the legs and claws, black; the inside of the mouth, orange; gap, wide; and the gullet capable of such distension as often to contain twelve or fifteen cedar berries, and serving as a kind of craw to prepare them for digestion. No wonder, then, that this gluttonous bird, with such a mass of food almost continually in its throat, should want both the inclination and powers for vocal melody, that which would seem to belong to those only of less gross and voracious habits. The chief difference in the plumage of the male and female consists in the dulness of the tints of the latter, the inferior appearance of the crest, and the narrowness of the yellow bar on the tip of the tail.

Though I do not flatter myself with being able to remove that prejudice from the minds of foreigners, which has made them look on this bird, also, as a degenerate and not a distinct species from their own; yet they must allow that the change has been very great, very uniform, and universal, all over North America, where I have never heard that the European species has been found; or, even if it were, this would only shew more clearly the specific difference of the

two, by proving, that climate or food could never have produced these differences in either when both retain them, though confined to the same climate.

But it is not only in the colour of their plumage that these two birds differ, but in several important particulars, in their manners and habits. The breeding place of the European species is absolutely unknown; supposed to be somewhere about the polar regions; from whence, in winter, they make different and very irregular excursions to different parts of Europe; seldom advancing farther south than the north of England, in lat. 54° N. and so irregularly, that many years sometimes elapse between their departure and reappearance; which, in more superstitious ages, has been supposed to portend some great national calamity. On the other hand, the American species inhabits the whole extensive range between Mexico and Canada, and perhaps much farther both northerly and southerly, building and rearing their young in all the intermediate regions, often in our gardens and orchards, within a few yards of our houses. Those of our fellow-citizens who have still any doubts, and wish to examine for themselves, may see beautiful specimens of both birds in the superb collection of Mr Charles W. Peale of Philadelphia, whose magnificent museum is indeed a national blessing, and will be a lasting honour to his memory.

In some parts of the country they are called crown birds; in others cherry birds, from their fondness for that fruit. They also feed on ripe persimmons, small winter grapes, bird cherries, and a great variety of other fruits and berries. The action of the stomach on these seeds and berries does not seem to injure their vegetative powers; but rather to promote them, by imbedding them in a calcareous case, and they are thus transported to and planted in various and distant parts by these little birds. In other respects, however, their usefulness to the farmer may be questioned; and in the general chorus of the feathered songsters they can scarcely be said to take a part. We must, therefore,

rank them far below many more homely and minute warblers, their neighbours, whom Providence seems to have formed, both as allies to protect the property of the husbandman from devouring insects, and as musicians to cheer him, while engaged in the labours of the field, with their innocent and delightful melody.

END OF VOLUME FIRST.

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AMERICAN ORNITHOLOGY.

AMERICAN ORNITHOLOGY;
OR THE
NATURAL HISTORY
OF
THE BIRDS OF THE UNITED STATES.

BY ALEXANDER WILSON,
AND CHARLES LUCIAN BONAPARTE.

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AMERICAN ORNITHOLOGY.

ORDER II.

CONTINUED.

PASSERES, LINNÆUS.

FAMILY IX.

CHELIDONES, VIEILL.

GENUS XIII. — *CAPRIMULGUS*, LINNÆUS.

66. *CAPRIMULGUS CAROLINENSIS*, WILSON AND GMELIN.

CHUCK-WILL'S-WIDOW.

WILSON, PLATE LIV. FIG. II.

THIS solitary bird is rarely found to the north of James river, in Virginia, on the sea-board, or of Nashville, in the State of Tennessee, in the interior; and no instance has come to my knowledge in which it has been seen either in New Jersey, Pennsylvania, or Maryland. On my journey south, I first met with it between Richmond and Petersburg, in Virginia, and also on the banks of the Cumberland in Tennessee.

Mr Pennant has described this bird under the appellation of the "short-winged goatsucker," (*Arct. Zool.* No. 336,) from a specimen which he received from Dr Garden, of Charleston, South Carolina; but, in speaking of its manners, he confounds it with the whip-poor-will, though the latter is little more than half the cubic bulk of the former, and its notes altogether different. "In South Carolina," says this writer, speaking of the present species, "it is called, from one of its notes, chuck-chuck-will's-widow; and, in the northern provinces, whip-poor-will, from the resemblance which another of its notes bears to these words." (*Arct. Zool.* p. 434.) He then proceeds to

detail the manners of the common whip-poor-will, by extracts from Dr Garden and Mr Kalm, which clearly prove that all of them were personally unacquainted with that bird ; and had never seen or examined any other than two of our species, the short-winged or chuck-will's-widow, and the long-winged, or night hawk, to both of which they indiscriminately attribute the notes and habits of the whip-poor-will.

The chuck-will's-widow, so called from its notes, which seem exactly to articulate these words, arrives on the sea coast of Georgia about the middle of March, and in Virginia early in April. It commences its singular call generally in the evening, soon after sunset, and continues it, with short occasional interruptions, for several hours. Towards morning these repetitions are renewed, and continue until dawn has fairly appeared. During the day it is altogether silent. This note, or call, instantly attracts the attention of a stranger, and is strikingly different from that of the whip-poor-will. In sound and articulation it seems plainly to express the words which have been applied to it (chuck-will's-widow,) pronouncing each syllable leisurely and distinctly, putting the principal emphasis on the last word. In a still evening it may be heard at the distance of nearly a mile, the tones of its voice being stronger and more full than those of the whip-poor-will, who utters his with much greater rapidity. In the Chickasaw country, and throughout the whole Mississippi territory, I found the present species very numerous in the months of April and May, keeping up a continued noise during the whole evening, and, in moonlight, throughout the whole of the night.

The flight of this bird is low, skimming about at a few feet above the surface of the ground, frequently settling on old logs, or on the fences, and from thence sweeping around, in pursuit of various winged insects that fly in the night. Like the whip-poor-will, it prefers the declivities of glens and other deeply shaded places, making the surrounding mountains ring with echoes the whole evening. I several times called the

attention of the Chickasaws to the notes of this bird, on which occasions they always assumed a grave and thoughtful aspect; but it appeared to me that they made no distinction between the two species; so that whatever superstitious notions they may entertain of the one are probably applied to both.

This singular genus of birds, formed to subsist on the superabundance of nocturnal insects, are exactly and surprisingly fitted for their peculiar mode of life. Their flight is low, to accommodate itself to their prey; silent, that they may be the better concealed, and sweep upon it unawares; their sight, most acute in the dusk, when such insects are abroad; their evolutions, something like those of the bat, quick and sudden; their mouths, capable of prodigious expansion, so seize with more certainty, and furnished with long branching hairs, or bristles, serving as palisadoes to secure what comes between them. Reposing so much during the heats of day, they are much infested with vermin, particularly about the head, and are provided with a comb on the inner edge of the middle claw, with which they are often employed in ridding themselves of these pests, at least when in a state of captivity. Having no weapons of defence, except their wings, their chief security is in the solitude of night, and in their colour and close retreats by day; the former so much resembling that of dead leaves, of various hues, as not to be readily distinguished from them even when close at hand.

The chuck-will's-widow lays its eggs, two in number, on the ground, generally, and, I believe, always in the woods; it makes no nest; the eggs are of a dull olive colour, sprinkled with darker specks, are about as large as those of a pigeon, and exactly oval. Early in September they retire from the United States.

This species is twelve inches long, and twenty-six in extent; bill, yellowish, tipped with black; the sides of the mouth are armed with numerous long bristles, strong, tapering, and furnished with finer hairs branching from each; cheeks and chin, rust colour, specked with black; over the eye extends a line of small whitish spots; head

and back, very deep brown, powdered with cream, rust, and bright ferruginous, and marked with long ragged streaks of black; scapulars, broadly spotted with deep black, bordered with cream, and interspersed with whitish; the plumage of that part of the neck which falls over the back, is long, something like that of a cock, and streaked with yellowish brown; wing quills, barred with black and bright rust; tail, rounded, extending about an inch beyond the tips of the wings; it consists of ten feathers, the four middle ones are powdered with various tints of ferruginous, and elegantly marked with fine zig-zag lines, and large herring-bone figures of black; exterior edges of the three outer feathers, barred like the wings; their interior vanes, for two-thirds of their length, are pure snowy white, marbled with black, and ferruginous at the base; this white spreads over the greater part of the three outer feathers near their tips; across the throat is a slight band or mark of whitish; breast, black, powdered with rust; belly and vent, lighter; legs, feathered before nearly to the feet, which are of a dirty purplish flesh colour; inner side of the middle claw, deeply pectinated.

The female differs chiefly in wanting the pure white on the three exterior tail feathers, these being more of a brownish cast.

67. *CAPRIMULGUS AMERICANUS*, WILSON. — NIGHT HAWK.

WILSON, PLATE XL. FIG. I. MALE. — FIG. II. FEMALE.

THIS bird, in Virginia and some of the southern districts, is called a bat; the name night hawk is usually given it in the middle and northern States, probably on account of its appearance when on wing very much resembling some of our small hawks, and from its habit of flying chiefly in the evening. Though it is a bird universally known in the United States, and inhabits North America, in summer, from Florida to Hudson's Bay, yet its history has been involved in considerable obscurity by foreign writers, as well as by some of our

own country. Of this I shall endeavour to divest it in the present account.

Three species only, of this genus, are found within the United States; the chuck-will's-widow, the whip-poor-will; and the night hawk. The first of these, is confined to those States lying south of Maryland; the other two are found generally over the Union, but are frequently confounded one with the other, and by some supposed to be one and the same bird. A comparison of this with the figure of the whip-poor-will will satisfy those who still have their doubts on this subject; and the great difference of manners which distinguishes each will render this still more striking and satisfactory.

On the last week in April, the night hawk commonly makes its first appearance in this part of Pennsylvania. At what particular period they enter Georgia, I am unable to say; but I find, by my notes, that, in passing to New Orleans by land, I first observed this bird in Kentucky on the 21st of April. They soon after disperse generally over the country, from the sea shore to the mountains, even to the heights of the Alleghany; and are seen, towards evening, in pairs, playing about, high in air, pursuing their prey, wasps, flies, beetles, and various other winged insects of the larger sort. About the middle of May, the female begins to lay. No previous preparation or construction of nest is made; though doubtless the particular spot has been reconnoitred and determined on. This is sometimes in an open space in the woods, frequently in a ploughed field, or in the corner of a corn field. The eggs are placed on the bare ground, in all cases on a dry situation, where the colour of the leaves, ground, stones, or other circumjacent parts of the surface may resemble the general tint of the eggs, and thereby render them less easy to be discovered. The eggs are most commonly two, rather oblong, equally thick at both ends, of a dirty bluish white, and marked with innumerable touches of dark olive brown. To the immediate neighbourhood of this spot the male and female confine themselves, roosting on the high trees adjoining during

the greater part of the day, seldom, however, together, and almost always on separate trees. They also sit lengthwise on the branch, fence, or limb, on which they roost, and never across, like most other birds; this seems occasioned by the shortness and slender form of their legs and feet, which are not at all calculated to grasp the branch with sufficient firmness to balance their bodies.

As soon as incubation commences, the male keeps a most vigilant watch around. He is then more frequently seen playing about in the air over the place, even during the day, mounting by several quick vibrations of the wings, then a few slower, uttering all the while a sharp harsh squeak, till, having gained the highest point, he suddenly precipitates himself, head foremost, and with great rapidity, down sixty or eighty feet, wheeling up again as suddenly; at which instant is heard a loud booming sound, very much resembling that produced by blowing strongly into the bung-hole of an empty hogs-head; and which is doubtless produced by the sudden expansion of his capacious mouth, while he passes through the air. He again mounts by alternate quick and leisurely motions of the wings, playing about as he ascends, uttering his usual hoarse squeak, till, in a few minutes, he again dives with the same impetuosity and violent sound as before. Some are of opinion that this is done to intimidate man or beast from approaching his nest, and he is particularly observed to repeat these divings most frequently around those who come near the spot, sweeping down past them, sometimes so near, and so suddenly, as to startle and alarm them. The same individual is, however, often seen performing these manœuvres over the river, the hill, the meadow, and the marsh, in the space of a quarter of an hour, and also towards the fall, when he has no nest. This singular habit belongs peculiarly to the male. The female has, indeed, the common hoarse note, and much the same mode of flight; but never precipitates herself in the manner of the male. During the time she is sitting, she will suffer you to approach

within a foot or two before she attempts to stir, and, when she does, it is in such a fluttering, tumbling manner, and with such appearance of a lame and wounded bird, as nine times in ten to deceive the person, and induce him to pursue her. This "pious fraud," as the poet Thomson calls it, is kept up until the person is sufficiently removed from the nest, when she immediately mounts and disappears. When the young are first hatched, it is difficult to distinguish them from the surface of the ground, their down being of a pale brownish colour, and they are altogether destitute of the common shape of birds, sitting so fixed and so squat as to be easily mistaken for a slight prominent mouldiness lying on the ground. I cannot say whether they have two brood in the season; I rather conjecture that they have generally but one.

The night hawk is a bird of strong and vigorous flight, and of large volume of wing. It often visits the city, darting and squeaking over the streets at a great height, diving perpendicularly with the same hollow sound as before described. I have also seen them sitting on chimney tops in some of the most busy parts of the city, occasionally uttering their common note.

When the weather happens to be wet and gloomy, the night hawks are seen abroad at all times of the day, generally at a considerable height; their favourite time, however, is from two hours before sunset until dusk. At such times they seem all vivacity, darting about in the air in every direction, making frequent short sudden turnings, as if busily engaged in catching insects. Even in the hottest, clearest weather, they are occasionally seen abroad, squeaking at short intervals. They are also often found sitting along the fences, basking themselves in the sun. Near the sea-shore, in the vicinity of extensive salt marshes, they are likewise very numerous, skimming over the meadows, in the manner of swallows, until it is so dark that the eye can no longer follow them.

When wounded and taken, they attempt to intimidate you by opening their mouth to its utmost stretch,

throwing the head forward, and uttering a kind of guttural whizzing sound, striking also violently with their wings, which seem to be their only offensive weapons; for they never attempt to strike with the bill or claws.

About the middle of August, they begin to move off towards the south; at which season they may be seen almost every evening, from five o'clock until after sunset, passing along the Schuylkill and the adjacent shores, in widely scattering multitudes, all steering towards the south. I have counted several hundreds within sight at the same time, dispersed through the air, and darting after insects as they advanced. These occasional processions continue for two or three weeks; none are seen travelling in the opposite direction. Sometimes they are accompanied by at least twice as many barn swallows, some chimney swallows and purple martins. They are also most numerous immediately preceding a northeast storm. At this time also they abound in the extensive meadows on the Schuylkill and Delaware, where I have counted fifteen skimming over a single field in an evening. On shooting some of these, on the 14th of August, their stomachs were almost exclusively filled with crickets. From one of them I took nearly a common snuff-box full of these insects, all seemingly fresh swallowed.

By the middle or 20th of September, very few of these birds are to be seen in Pennsylvania; how far south they go, or at what particular time they pass the southern boundaries of the United States, I am unable to say. None of them winter in Georgia.

The ridiculous name goatsucker,—which was first bestowed on the European species, from a foolish notion that it sucked the teats of the goats, because, probably, it inhabited the solitary heights where they fed, which nickname has been since applied to the whole genus,—I have thought proper to omit. There is something worse than absurd in continuing to brand a whole family of birds with a knavish name, after they are universally known to be innocent of the charge. It is

not only unjust, but tends to encourage the belief in an idle fable that is totally destitute of all foundation.

The night hawk is nine inches and a half in length, and twenty-three inches in extent; the upper parts are of a very deep blackish brown, unmixed on the primaries, but thickly sprinkled or powdered on the back scapulars and head with innumerable minute spots and streaks of a pale cream colour, interspersed with specks of reddish; the scapulars are barred with the same, also the tail-coverts and tail, the inner edges of which are barred with white and deep brownish black for an inch and a half from the tip, where they are crossed broadly with a band of white, the two middle ones excepted, which are plain deep brown, barred and sprinkled with light clay; a spot of pure white extends over the five first primaries, the outer edge of the exterior feather excepted, and about the middle of the wing; a triangular spot of white also marks the throat, bending up on each side of the neck; the bill is exceedingly small, scarcely one-eighth of an inch in length, and of a black colour; the nostrils, circular, and surrounded with a prominent rim; eye, large and full, of a deep bluish black; the legs are short, feathered a little below the knees, and, as well as the toes, of a purplish flesh colour, seamed with white; the middle claw is pectinated on its inner edge, to serve as a comb to clear the bird of vermin; the whole lower parts of the body are marked with transverse lines of dusky and yellowish. The tail is somewhat shorter than the wings when shut, is handsomely forked, and consists of ten broad feathers; the mouth is extremely large, and of a reddish flesh colour within; there are no bristles about the bill; the tongue is very small, and attached to the inner surface of the mouth.

The female measures about nine inches in length, and twenty-two in breadth; differs in having no white band on the tail, but has the spot of white on the wing; wants the triangular spot of white on the throat, instead of which there is a dully defined mark of a reddish cream colour; the wings are nearly black, all the quills

being slightly tipt with white; the tail is as in the male, and minutely tipt with white; all the scapulars, and whole upper parts, are powdered with a much lighter gray.

There is no description of the present species in Turton's translation of Linnæus. The characters of the genus given in the same work are also in this case incorrect, viz. "mouth furnished with a series of bristles; tail not forked,"—the night hawk having nothing of the former, and its tail being largely forked.

68. *CAPRIMULGUS VOCIFERUS*, WILSON. — WHIP-POOR-WILL.

WILSON, PLATE XLI. FIG. I. MALE. — FIG. II. FEMALE. — FIG. III. YOUNG.

THIS is a singular and very celebrated species, universally noted over the greater part of the United States for the loud reiterations of his favourite call in spring; and yet personally he is but little known, most people being unable to distinguish this from the preceding species, when both are placed before them; and some insisting that they are the same. This being the case, it becomes the duty of his historian to give a full and faithful delineation of his character and peculiarity of manners, that his existence as a distinct and independent species may no longer be doubted, nor his story mingled confusedly with that of another. I trust that those best acquainted with him will bear witness to the fidelity of the portrait.

On or about the 25th of April, if the season be not uncommonly cold, the whip-poor-will is first heard in this part of Pennsylvania, in the evening, as the dusk of twilight commences, or in the morning as soon as dawn has broke. In the State of Kentucky I first heard this bird on the 14th of April, near the town of Danville. The notes of this solitary bird, from the ideas which are naturally associated with them, seem like the voice of an old friend, and are listened to by almost all with great interest. At first they issue from some

retired part of the woods, the glen, or mountain ; in a few evenings, perhaps, we hear them from the adjoining coppice, the garden fence, the road before the door, and even from the roof of the dwelling-house, long after the family have retired to rest. Some of the more ignorant and superstitious considered this near approach as foreboding no good to the family, nothing less than sickness, misfortune, or death, to some of its members ; these visits, however, so often occur without any bad consequences, that this superstitious dread seems on the decline.

He is now a regular acquaintance. Every morning and evening his shrill and rapid repetitions are heard from the adjoining woods, and when two or more are calling out at the same time, as is often the case in the pairing season, and at no great distance from each other, the noise, mingling with the echoes from the mountains, is really surprising. Strangers, in parts of the country where these birds are numerous, find it almost impossible for some time to sleep ; while to those long acquainted with them, the sound often serves as a lullaby to assist their repose.

These notes seem pretty plainly to articulate the words which have been generally applied to them, *whip-poor-will*, the first and last syllables being uttered with great emphasis, and the whole in about a second to each repetition ; but when two or more males meet, their whip-poor-will altercations become much more rapid and incessant, as if each were straining to overpower or silence the other. When near, you often hear an introductory cluck between the notes. At these times, as well as at almost all others, they fly low, not more than a few feet from the surface, skimming about the house and before the door, alighting on the wood pile, or settling on the roof. Towards midnight they generally become silent, unless in clear moonlight, when they are heard with little intermission till morning. If there be a creek near, with high precipitous bushy banks, they are sure to be found in such situations. During the day they sit in the most

retired, solitary, and deep shaded parts of the woods, generally on high ground, where they repose in silence. When disturbed, they rise within a few feet, sail low and slowly through the woods for thirty or forty yards, and generally settle on a low branch or on the ground. Their sight appears deficient during the day, as, like owls, they seem then to want that vivacity for which they are distinguished in the morning and evening twilight. They are rarely shot at or molested; and from being thus transiently seen in the obscurity of dusk, or in the deep umbrage of the woods, no wonder their particular markings of plumage should be so little known, or that they should be confounded with the night hawk, whom in general appearance they so much resemble. The female begins to lay about the second week in May, selecting for this purpose the most unfrequented part of the wood, often where some brush, old logs, heaps of leaves, &c. had been lying, and always on a dry situation. The eggs are deposited on the ground, or on the leaves, not the slightest appearance of a nest being visible. These are usually two in number, in shape much resembling those of the night hawk, but having the ground colour much darker, and more thickly marbled with dark olive. The precise period of incubation, I am unable to say.

In traversing the woods one day in the early part of June, along the brow of a rocky declivity, a whip-poor-will rose from my feet, and fluttered along, sometimes prostrating herself, and beating the ground with her wings, as if just expiring. Aware of her purpose, I stood still, and began to examine the space immediately around me for the eggs or young, one or other of which I was certain must be near. After a long search, to my mortification, I could find neither; and was just going to abandon the spot, when I perceived somewhat like a slight mouldiness among the withered leaves, and, on stooping down, discovered it to be a young whip-poor-will, seemingly asleep, as its eyelids were nearly closed; or perhaps this might only be to protect its tender eyes from the glare of day. I sat down by it on the leaves,

and drew it as it then appeared. It was probably not a week old. All the while I was thus engaged, it neither moved its body, nor opened its eyes more than half; and I left it as I found it. After I had walked about a quarter of a mile from the spot, recollecting that I had left a pencil behind, I returned and found my pencil, but the young bird was gone.

Early in June, as soon as the young appear, the notes of the male usually cease, or are heard but rarely. Towards the latter part of summer, a short time before these birds leave us, they are again occasionally heard; but their call is then not so loud—much less emphatical, and more interrupted than in spring. Early in September they move off towards the south.

The favourite places of resort for these birds are on high, dry situations; in low, marshy tracts of country, they are seldom heard. It is probably on this account that they are scarce on the sea-coast and its immediate neighbourhood; while towards the mountains they are very numerous. The night hawks, on the contrary, delight in these extensive sea marshes; and are much more numerous there than in the interior and higher parts of the country. But no where in the United States have I found the whip-poor-will in such numbers as in that tract of country in the State of Kentucky called the Barrens. This appears to be their most congenial climate and place of residence. There, from the middle of April to the 1st of June, as soon as the evening twilight draws on, the shrill and confused clamours of these birds are incessant, and very surprising to a stranger. They soon, however, become extremely agreeable, the inhabitants lie down at night lulled by their whistlings; and the first approaches of dawn are announced by a general and lively chorus of the same music; while the full-toned *tooting*, as it is called, of the pinnated grouse, forms a very pleasing bass to the whole.

I shall not, in the manner of some, attempt to amuse the reader with a repetition of the unintelligible names given to this bird by the Indians, or the superstitious

notions generally entertained of it by the same people. These seem as various as the tribes, or even families, with which you converse; scarcely two of them will tell you the same story. It is easy, however, to observe, that this, like the owl and other nocturnal birds, is held by them in a kind of suspicious awe, as a bird with which they wish to have as little to do as possible. The superstition of the Indian differs very little from that of an illiterate German, a Scots Highlander, or the less informed of any other nation. It suggests ten thousand fantastic notions to each, and these, instead of being recorded with all the punctilio of the most important truths, seem only fit to be forgotten. Whatever, among either of these people, is strange and not comprehended, is usually attributed to supernatural agency; and an unexpected sight, or uncommon incident, is often ominous of good, but more generally of bad, fortune, to the parties. Night, to minds of this complexion, brings with it its kindred horrors, its apparitions, strange sounds, and awful sights; and this solitary and inoffensive bird being a frequent wanderer in these hours of ghosts and hobgoblins, is considered by the Indians as being, by habit and repute, little better than one of them. All these people, however, are not so credulous: I have conversed with Indians who treated these silly notions with contempt.

The whip-poor-will is never seen during the day, unless in circumstances such as have been described. Their food appears to be large moths, grasshoppers, pismires, and such insects as frequent the bark of old rotten and decaying timber. They are also expert in darting after winged insects. They will sometimes skim in the dusk, within a few feet of a person, uttering a kind of low chatter as they pass. In their migrations north, and on their return, they probably stop a day or two at some of their former stages, and do not advance in one continued flight. The whip-poor-will was first heard this season [1811] on the 2d day of May, in a corner of Mr Bartram's woods, not far from the house, and for two or three mornings after in the same place,

where I also saw it. From this time until the beginning of September, there were none of these birds to be found within at least one mile of the place; though I frequently made search for them. On the 4th of September, the whip-poor-will was again heard for two evenings, successively, in the same part of the woods. I also heard several of them passing, within the same week, between dusk and nine o'clock at night, it being then clear moonlight. These repeated their notes three or four times, and were heard no more. It is highly probable that they migrate during the evening and night.

The whip-poor-will is nine inches and a half long, and nineteen inches in extent; the bill is blackish, a full quarter of an inch long, much stronger than that of the night hawk, and bent a little at the point, the under mandible arched a little upwards, following the curvature of the upper; the nostrils are prominent and tubular, their openings directed forward; the mouth is extravagantly large, of a pale flesh colour within, and beset along the sides with a number of long, thick, elastic bristles, the longest of which extends more than half an inch beyond the point of the bill, end in fine hair, and curve inwards; these seem to serve as feelers; and prevent the escape of winged insects: the eyes are very large, full, and bluish black; the plumage above is so variegated with black, pale cream, brown, and rust colour, sprinkled and powdered in such minute streaks and spots, as to defy description; the upper part of the head is of a light brownish gray, marked with a longitudinal streak of black, with others radiating from it; the back is darker, finely streaked with a less deep black; the scapulars are very light whitish ochre, beautifully variegated with two or three oblique streaks of very deep black; the tail is rounded, consisting of ten feathers, the exterior one an inch and a quarter shorter than the middle ones, the three outer feathers on each side are blackish brown for half their length, thence pure white to the tips, the exterior one is edged with deep brown nearly to the tip; the deep brown of

these feathers is regularly studded with light brown spots; the four middle ones are without the white at the ends, but beautifully marked with herring-bone figures of black and light ochre finely powdered; cheeks and sides of the head, of a brown orange or burnt colour; the wings, when shut, reach scarcely to the middle of the tail, and are elegantly spotted with very light and dark brown, but are entirely without the large spot of white which distinguishes those of the night hawk; chin, black, streaked with brown; a narrow semicircle of white passes across the throat; breast and belly, irregularly mottled and streaked with black and yellow ochre; the legs and feet are of a light purplish flesh colour, seamed with white; the former feathered before, nearly to the feet; the two exterior toes are joined to the middle one, as far as the first joint, by a broad membrane; the inner edge of the middle claw is pectinated, and, from the circumstance of its being frequently found with small portions of down adhering to the teeth, is probably employed as a comb to rid the plumage of its head of vermin; this being the principal and almost only part so infested in all birds.

The female is about an inch less in length and in extent; the bill, mustaches, nostrils, &c. as in the male. She differs in being much lighter on the upper parts, seeming as if powdered with grains of meal; and, instead of the white on the three lateral tail-feathers, has them tipped for about three-quarters of an inch with a cream colour; the bar across the throat is also of a brownish ochre; the cheeks and region of the eyes are brighter brownish orange, which passes also to the neck, and is sprinkled with black and specks of white; the streak over the eye is also lighter.

The young was altogether covered with fine down, of a pale brown colour; the shafts, or rather sheaths, of the quills, bluish; the point of the bill, just perceptible.

Twenty species of this singular genus are now known to naturalists; of these one only belongs to Europe, one to Africa, one to New Holland, two to India, and fifteen to America.

The present species, though it approaches nearer in its plumage to that of Europe than any other of the tribe, differs from it in being entirely without the large spot of white on the wing; and in being considerably less. Its voice, and particular call, are also entirely different.

Farther to illustrate the history of this bird, the following notes are added, made at the time of dissection:—Body, when stript of the skin, less than that of the wood thrush; breastbone, one inch in length; second stomach, strongly muscular, filled with fragments of pismires and grasshoppers; skin of the bird, loose, wrinkly, and scarcely attached to the flesh; flesh also loose, extremely tender; bones, thin and slender; sinews and muscles of the wing, feeble; distance between the tips of both mandibles, when expanded, full two inches, length of the opening, one inch and a half, breadth, one inch and a quarter; tongue, very short, attached to the skin of the mouth, its internal part, or *os hyoïdes*, passes up the hind head, and reaches to the front, like that of the woodpecker; which enables the bird to revert the lower part of the mouth in the act of seizing insects, and in calling; skull, extremely light and thin, being semi-transparent, its cavity nearly half occupied by the eyes; aperture for the brain, very small, the quantity not exceeding that of a sparrow; an owl of the same extent of wing has at least ten times as much.

Though this noted bird has been so frequently mentioned by name, and its manners taken notice of by almost every naturalist who has written on our birds, yet personally it has never yet been described by any writer with whose works I am acquainted. Extraordinary as this may seem, it is nevertheless true; and in proof I offer the following facts:—

Three species only of this genus are found within the United States, the chuck-will's-widow, the night hawk, and the whip-poor-will. Catesby, in the eighth plate of his *Natural History of Carolina*, has figured the first, and in the sixteenth of his *Appendix* the second; to this he has added particulars of the whip-poor-will,

believing it to be that bird, and has ornamented his figure of the night hawk with a large bearded appendage, of which in nature it is entirely destitute. After him, Mr Edwards, in his sixty-third plate, has in like manner figured the night hawk, also adding the bristles, and calling his figure the whip-poor-will, accompanying it with particulars of the notes, &c. of that bird, chiefly copied from Catesby. The next writer of eminence who has spoken of the whip-poor-will is Mr Pennant, justly considered as one of the most judicious and discriminating of English naturalists; but, deceived by "the lights he had," he has, in his account of the short-winged goatsucker,* (*Arct. Zool.* p. 434,) given the size, markings of plumage, &c. of the chuck-will's widow; and, in the succeeding account of his long-winged goatsucker, describes pretty accurately the night hawk. Both of these birds he considers to be the whip-poor-will, and as having the same notes and manners.

After such authorities, it was less to be wondered at that many of our own citizens, and some of our naturalists and writers, should fall into the like mistake; as copies of the works of those English naturalists are to be found in several of our colleges, and in some of our public as well as private libraries. The means which the author of *American Ornithology* took to satisfy his own mind, and those of his friends, on this subject, were detailed at large, in a paper published about two years ago, in a periodical work of this city, with which extract I shall close my account of the present species.

"On the question, Is the whip-poor-will and the night hawk one and the same bird, or are they really two distinct species? there has long been an opposition of sentiment, and many fruitless disputes. Numbers of sensible and observing people, whose intelligence and long residence in the country entitle their opinion to

* The figure is by mistake called the long-winged goatsucker. See *Arctic Zoology*, vol. ii. pl. 18.

† *Caprimulgus Americanus*, night hawk or whip-poor-will. *Travels*, p. 292.

respect, positively assert that the night hawk and the whip-poor-will are very different birds, and do not even associate together. The naturalists of Europe, however, have generally considered the two names as applicable to one and the same species; and this opinion has also been adopted by two of our most distinguished naturalists, Mr William Bartram, of Kingsessing,* and Professor Barton, of Philadelphia.† The writer of this, being determined to ascertain the truth by examining for himself, took the following effectual mode of settling this disputed point, the particulars of which he now submits to those interested in the question :

“ Thirteen of those birds usually called night hawks, which dart about in the air like swallows, and sometimes descend with rapidity from a great height, making a hollow sounding noise like that produced by blowing into the bung-hole of an empty hogshead, were shot at different times, and in different places, and accurately examined, both outwardly and by dissection. Nine of these were found to be males, and four females. The former all corresponded in the markings and tints of their plumage; the latter also agreed in their marks, differing slightly from the males, though evidently of the same species. Two others were shot as they rose from the nests, or rather from the eggs, which, in both cases, were two in number, lying on the open ground. These also agreed in the markings of their plumage with the four preceding; and, on dissection, were found to be females. The eggs were also secured. A whip-poor-will was shot in the evening, while in the act of repeating his usual and well known notes. This bird was found to be a male, differing in many remarkable particulars from all the former. Three others were shot at different times during the day, in solitary and dark shaded parts of the wood. Two of these were found to be females, one of which had been sitting on two eggs. The two females resembled each other

* *Caprimulgus Virginianus*, whip-poor-will, or night hawk. *Fragments of the Natural History of Pennsylvania*, p. 3. See also *American Phil. Trans.* vol. iv. p. 208, 209, note.

almost exactly; the male also corresponded in its markings with the one first found; and all four were evidently of one species. The eggs differed from the former both in colour and markings.

“ The differences between these two birds were as follow:— The sides of the mouth in both sexes of the whip-poor-will were beset with ranges of long and very strong bristles, extending more than half an inch beyond the point of the bill; both sexes of the night hawk were entirely destitute of bristles. The bill of the whip-poor-will was also more than twice the length of that of the night hawk. The long wing quills, of both sexes of the night hawk, were of a deep brownish black, with a large spot of white nearly in their middle, and, when shut, the tips of the wings extended a little *beyond* the tail. The wing-quills of the whip-poor-will, of both sexes, were beautifully spotted with light brown; had no spot of white on them, and, when shut, the tips of the wings did not reach to the tip of the tail by at least *two inches*. The tail of the night hawk was handsomely *forked*, the exterior feathers being the longest, shortening gradually to the middle ones; the tail of the whip-poor-will was *rounded*, the exterior feathers being the shortest, lengthening gradually to the middle ones.

“ After a careful examination of these and several other remarkable differences, it was impossible to withstand the conviction, that these birds belonged to two distinct species of the same genus, differing in size, colour, and conformation of parts.

“ A statement of the principal of these facts having been laid before Mr Bartram, together with a male and female of each of the above mentioned species, and also a male of the great Virginian bat, or chuck-will's-widow, after a particular examination that venerable naturalist was pleased to declare himself fully satisfied; adding, that he had now no doubt of the night hawk and the whip-poor-will being two very distinct species of *caprimulgus*.

“ It is not the intention of the writer of this to enter at present into a description of either the plumage,

manners, migrations, or economy of these birds, the range of country they inhabit, or the superstitious notions entertained of them; his only object at present is the correction of an error, which, from the respectability of those by whom it was unwarily adopted, has been but too extensively disseminated, and received by too many as a truth."

GENUS XIV.—*CYPSELUS*, ILLIGER.

69. *CYPSELUS PELASGIUS*, TEMM.

HIRUNDO PELASGIA, WILSON. — CHIMNEY SWALLOW, WILSON.

WILSON, PLATE XXXIX. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

THIS species is peculiarly our own; and strongly distinguished from all the rest of our swallows by its figure, flight, and manners. These peculiarities shall be detailed as fully as the nature of the subject requires.

This swallow, like all the rest of its tribe in the United States, is migratory, arriving in Pennsylvania late in April or early in May, and dispersing themselves over the whole country wherever there are vacant chimneys in summer sufficiently high and convenient for their accommodation. In no other situation with us are they observed at present to build. This circumstance naturally suggests the query, Where did these birds construct their nests before the arrival of Europeans in this country, when there were no such places for their accommodation? I would answer, Probably in the same situations in which they still continue to build in the remote regions of our western forests, where European improvements of this kind are scarcely to be found, namely, in the hollow of a tree, which, in some cases, has the nearest resemblance to their present choice, of any other. One of the first settlers in the State of Kentucky informed me, that he cut down a large hollow beech tree, which contained forty or fifty nests of the chimney swallow, most of which, by the fall of the tree, or by the weather, were lying at the

bottom of the hollow ; but sufficient fragments remained, adhering to the sides of the tree, to enable him to number them. They appeared, he said, to be of many years' standing. The present site which they have chosen must, however, hold out many more advantages than the former, since we see that, in the whole thickly settled parts of the United States, these birds have uniformly adopted this new convenience, not a single pair being observed to prefer the woods. Security from birds of prey and other animals—from storms that frequently overthrow the timber, and the numerous ready conveniencies which these new situations afford, are doubtless some of the advantages. The choice they have made certainly bespeaks something more than mere unreasoning instinct, and does honour to their discernment.

The nest of this bird is of singular construction, being formed of very small twigs, fastened together with a strong adhesive glue or gum, which is secreted by two glands, one on each side of the hind head, and mixes with the saliva. With this glue, which becomes hard as the twigs themselves, the whole nest is thickly besmeared. The nest itself is small and shallow, and attached by one side or edge to the wall, and is totally destitute of the soft lining with which the others are so plentifully supplied. The eggs are generally four, and white. They generally have two brood in the season. The young are fed at intervals during the greater part of the night, a fact which I have had frequent opportunities of remarking both here and in the Mississippi territory. The noise which the old ones make in passing up and down the funnel has some resemblance to distant thunder. When heavy and long continued rains occur, the nest, losing its hold, is precipitated to the bottom. This disaster frequently happens. The eggs are destroyed ; but the young, though blind, (which they are for a considerable time,) sometimes scramble up along the vent, to which they cling like squirrels, the muscularity of their feet, and the sharpness of their claws, at this tender age, being

remarkable. In this situation they continue to be fed for perhaps a week or more. Nay, it is not uncommon for them voluntarily to leave the nest long before they are able to fly, and to fix themselves on the wall, where they are fed until able to hunt for themselves.

When these birds first arrive in spring, and for a considerable time after, they associate together every evening in one general rendezvous; those of a whole district roosting together. This place of repose, in the more unsettled parts of the country, is usually a large hollow tree, open at top; trees of that kind, or *swallow trees*, as they are usually called, having been noticed in various parts of the country, and generally believed to be the winter quarters of these birds, where, heaps upon heaps, they dozed away the winter in a state of torpidity. Here they have been seen on their resurrection in spring, and here they have again been remarked descending to their deathlike sleep in autumn.

Among various accounts of these trees that might be quoted, the following are selected as bearing the marks of authenticity. "At Middlebury, in this State," says Mr Williams, *History of Vermont*, p. 116, "there was a large hollow elm, called by the people in the vicinity, the swallow tree. From a man who for several years lived within twenty rods of it, I procured this information. He always thought the swallows tarried in the tree through the winter, and avoided cutting it down on that account. About the first of May the swallows came out of it in large numbers, about the middle of the day, and soon returned. As the weather grew warmer, they came out in the morning, with a loud noise, or roar, and were soon dispersed. About half an hour before sun-down, they returned in millions, circulating two or three times round the tree, and then descending like a stream into a hole about sixty feet from the ground. It was customary for persons in the vicinity to visit this tree to observe the motions of these birds: and when any persons disturbed their operations, by striking violently against the tree with their axes, the swallows would rush out in millions, and with a

great noise. In November, 1791, the top of this tree was blown down twenty feet below where the swallows entered. There has been no appearance of the swallows since. Upon cutting down the remainder, an immense quantity of excrements, quills, and feathers were found, but no appearance or relics of any nests.

“ Another of these swallow trees was at Bridport. The man who lived the nearest to it gave this account. The swallows were first observed to come out of the tree in the spring, about the time that the leaves first began to appear on the trees; from that season they came out in the morning about half an hour after sunrise. They rushed out like a stream, as big as the hole in the tree would admit, and ascended in a perpendicular line, until they were above the height of the adjacent trees; then assumed a circular motion, performing their evolutions two or three times, but always in a larger circle, and then dispersed in every direction. A little before sun-down, they returned in immense numbers, forming several circular motions, and then descended like a stream into the hole, from whence they came out in the morning. About the middle of September, they were seen entering the tree for the last time. These birds were all of the species called the house or chimney swallow. The tree was a large hollow elm; the hole at which they entered was about forty feet above the ground, and about nine inches in diameter. The swallows made their first appearance in the spring, and their last appearance in the fall, in the vicinity of this tree; and the neighbouring inhabitants had no doubt but that the swallows continued in it during the winter. A few years ago, a hole was cut at the bottom of the tree; from that time the swallows have been gradually forsaking the tree, and have now almost deserted it.”

Though Mr Williams himself, as he informs us, is led to believe, from these, and some other particulars which he details, “ that the house swallow in this part of America generally resides during the winter in the hollow of trees; and the ground swallows (bank swal-

lows) find security in the mud at the bottom of lakes, rivers, and ponds," yet I cannot, in the cases just cited, see any sufficient cause for such a belief. The birds were seen to pass out on the first of May, or in the spring, when the leaves began to appear on the trees, and, about the middle of September, they were seen entering the tree for the last time; but there is no information here of their being seen at any time during winter, either within or around the tree. This most important part of the matter is taken for granted without the least examination, and, as will be presently shewn, without foundation. I shall, I think, also prove, that, if these trees had been cut down in the depth of winter, not a single swallow would have been found either in a living or torpid state! And that this was merely a place of rendezvous for *active living birds* is evident, from the "immense quantity of excrements" found within it, which birds in a state of *torpidity* are not supposed to produce. The total absence of the relics of nests is a proof that it was not a breeding place, and that the whole was nothing more than one of those places to which this singular bird resorts, immediately on its arrival in May, in which, also, many of the males continue to roost during the whole summer, and from which they regularly depart about the middle of September. From other circumstances, it appears probable, that some of these trees have been for ages the summer rendezvous or general roosting place of the whole chimney swallows of an extensive district. Of this sort I conceive the following to be one which is thus described by a late traveller to the westward.

Speaking of the curiosities of the State of Ohio, the writer observes:—"In connection with this, I may mention a large collection of feathers found within a hollow tree which I examined, with the Rev. Mr Story, May 18th, 1803. It is in the upper part of Waterford, about two miles distant from the Muskingum. A very large sycamore, which, through age, had decayed and fallen down, contained in its hollow trunk, five and a half feet in diameter, and for nearly fifteen feet upwards,

a mass of decayed feathers, with a small admixture of brownish dust and the exuviae of various insects. The feathers were so rotten, that it was impossible to determine to what kind of birds they belonged. They were less than those of the pigeon; and the largest of them were like the pinion and tail feathers of the swallow. I examined carefully this astonishing collection, in the hope of finding the bones and bills, but could not distinguish any. The tree, with some remains of its ancient companions lying around, was of a growth preceding that of the neighbouring forest. Near it, and even out of its mouldering ruins, grow thrifty trees of a size which indicate two or three hundred years of age."*

Such are the usual roosting places of the chimney swallow in the more thinly settled parts of the country. In towns, however, they are differently situated, and it is matter of curiosity to observe that they frequently select the court-house chimney for their general place of rendezvous, as being usually more central, and less liable to interruption during the night. I might enumerate many places where this is their practice. Being in the town of Reading, Pennsylvania, in the month of August, I took notice of sixty or eighty of these birds, a little before evening, amusing themselves by ascending and descending the chimney of the court-house there. I was told, that in the early part of summer, they were far more numerous at that particular spot. On the 20th of May, in returning from an excursion to the Great Pine swamp, I spent part of the day in the town of Easton, where I was informed by my respected friend, Mordecai Churchman, cashier of the bank there, and one of the people called quakers, that the chimney swallows of Easton had selected the like situation; and that, from the windows of his house, which stands nearly opposite to the court-house, I might, in an hour or two, witness their whole manœuvres.

I accepted the invitation with pleasure. Accordingly,

* HARRIS'S *Journal*, p. 180.

a short time after sunset, the chimney swallows, which were generally dispersed about town, began to collect around the court-house, their numbers every moment increasing, till, like motes in the sunbeams, the air seemed full of them. These, while they mingled amongst each other seemingly in every direction, uttering their peculiar note with great sprightliness, kept a regular circuitous sweep around the top of the court-house, and about fourteen or fifteen feet above it, revolving with great rapidity for the space of at least ten minutes. There could not be less than four or five hundred of them. They now gradually varied their line of motion, until one part of its circumference passed immediately over the chimney, and about five or six feet above it. Some as they passed made a slight feint of entering, which was repeated by those immediately after, and by the whole circling multitude in succession; in this feint they approached nearer and nearer at every revolution, dropping perpendicularly, but still passing over; the circle meantime becoming more and more contracted, and the rapidity of its revolution greater, as the dusk of evening increased, until, at length, one, and then another, dropped in, another and another followed, the circle still revolving until the whole multitude had descended except one or two. These flew off, as if to collect the stragglers, and, in a few seconds, returned, with six or eight more, which, after one or two rounds, dropped in one by one, and all was silence for the night. It seemed to me hardly possible that the internal surface of the vent could accommodate them all, without clustering on one another, which I am informed they never do; and I was very desirous of observing their ascension in the morning, but having to set off before day, I had not that gratification. Mr Churchman, however, to whom I have since transmitted a few queries, has been so obliging as to inform me, that towards the beginning of June the number of those that regularly retired to the court-house to roost, was not more than one-fourth of the former; that on the morning of the 23d of June,

he particularly observed their reascension, which took place at a quarter past four, or twenty minutes before sunrise, and that they passed out in less than three minutes; that at my request the chimney had been examined from above; but that, as far down at least as nine feet, it contained no nests; though at a former period it is certain that their nests were very numerous there, so that the chimney was almost choked, and a sweep could with difficulty get up it. But then it was observed that their place of nocturnal retirement was in another quarter of the town. "On the whole," continues Mr Churchman, "I am of opinion, that those who continue to roost at the court-house are male birds, or such as are not engaged in the business of incubation, as that operation is going on in almost every unoccupied chimney in town. It is reasonable to suppose, if they made use of that at the court-house for this purpose, at least some of their nests would appear towards the top, as we find such is the case where but few nests are in a place."

In a subsequent letter Mr Churchman writes as follows:—"After the young brood produced in the different chimneys in Easton had taken wing, and a week or ten days previous to their total disappearance, they entirely forsook the court-house chimney, and rendezvoused in accumulated numbers in the southernmost chimney of John Ross's mansion, situated perhaps one hundred feet northeastward of the court-house. In this last retreat I several times counted more than two hundred go in of an evening, when I could not perceive a single bird enter the court-house chimney. I was much diverted one evening on seeing a cat, which came upon the roof of the house, and placed herself near the chimney, where she strove to arrest the birds as they entered, without success; she at length ascended to the chimney top and took her station, and the birds descended in gyrations without seeming to regard grimalkin, who made frequent attempts to grab them. I was pleased to see that they all escaped her fangs. About the first week in the ninth month

[September,] the birds quite disappeared; since which I have not observed a single individual. Though I was not so fortunate as to be present at their general assembly and council when they concluded to take their departure, nor did I see them commence their flight, yet I am fully persuaded that none of them remain in any of our chimneys here. I have had access to Ross's chimney where they last resorted, and could see the lights out from bottom to top, without the least vestige or appearance of any birds. Mary Ross also informed me, that they have had their chimneys swept previous to their making fires, and, though late in autumn, no birds have been found there. Chimneys, also, which have not been used, have been ascended by sweeps in the winter without discovering any. Indeed, all of them are swept every fall and winter, and I have never heard of the swallows being found in either a dead, living, or torpid state. As to the court-house, it has been occupied as a place of worship two or three times a-week for several weeks past, and at those times there has been fire in the stoves, the pipes of them both going into the chimney, which is shut up at bottom by brick work: and, as the birds had forsaken that place, it remains pretty certain that they did not return there; and, if they did, the smoke, I think, would be deleterious to their existence, especially as I never knew them to resort to kitchen chimneys where fire was kept in the summer. I think I have noticed them enter such chimneys for the purpose of exploring; but I have also noticed that they immediately ascended, and went off, on finding fire and smoke."

The chimney swallow is easily distinguished in air from the rest of its tribe here, by its long wings, its short body, the quick and slight vibrations of its wings, and its wide unexpected diving rapidity of flight; shooting swiftly in various directions without any apparent motion of the wings, and uttering the sounds *tsip tsip tsip tsee tsee* in a hurried manner. In roosting, the thorny extremities of its tail are thrown in for its support. It is never seen to alight but in hollow

trees or chimneys; is always most gay and active in wet and gloomy weather; and is the earliest abroad in morning, and latest out in evening, of all our swallows. About the first or second week in September, they move off to the south, being often observed on their route, accompanied by the purple martins.

When we compare the manners of these birds while here with the account given by Captain Henderson of those that winter in such multitudes at Honduras, it is impossible not to be struck with the resemblance; or to suppress our strong suspicions that they may probably be the very same.

This species is four inches and a half in length, and twelve inches in extent! altogether of a deep sooty brown, except the chin and line over the eye, which are of a dull white; the lores, as in all the rest, are black; bill, extremely short, hard, and black; nostrils, placed in a slightly elevated membrane; legs, covered with a loose purplish skin; thighs, naked, and of the same tint; feet, extremely muscular; the three fore toes, nearly of a length; claws, very sharp; the wing, when closed, extends an inch and a half beyond the tip of the tail, which is rounded, and consists of *ten* feathers scarcely longer than their coverts; their shafts extend beyond the vanes, are sharp-pointed, strong, and very elastic, and of a deep black colour; the shafts of the wing quills are also remarkably strong; eye, black, surrounded by a bare blackish skin or orbit.

The female can scarcely be distinguished from the male by her plumage.

GENUS XV.—*HIRUNDO*, LINNÆUS.

70. *HIRUNDO PURPUREA*, LINNÆUS AND WILSON.

PURPLE MARTIN.

WILSON, PLATE XXXIX. FIG. I. MALE. — FIG. II. FEMALE.

THIS well-known bird is a general inhabitant of the United States, and a particular favourite wherever he

takes up his abode. I never met with more than one man who disliked the martins, and would not permit them to settle about his house. This was a penurious, close-fisted German, who hated them, because, as he said, "they eat his *peas*." I told him he must certainly be mistaken, as I never knew an instance of martins eating *peas*; but he replied with coolness, that he had many times seen them himself "blaying near the hife, and going *schnip, schnap*," by which I understood that it was his *bees* that had been the sufferers; and the charge could not be denied.

This sociable and half domesticated bird arrives in the southern frontiers of the United States late in February, or early in March; reaches Pennsylvania about the 1st of April, and extends his migrations as far north as the country round Hudson's Bay, where he is first seen in May and disappears in August; so, according to the doctrine of torpidity, has, consequently, a pretty long annual nap in those frozen regions, of eight or nine months, under the ice! We, however, choose to consider him as advancing northerly with the gradual approach of spring, and retiring with his young family, on the first decline of summer, to a more congenial climate.

The summer residence of this agreeable bird is universally among the habitations of man; who, having no interest in his destruction, and deriving considerable advantage, as well as amusement, from his company, is generally his friend and protector. Wherever he comes, he finds some hospitable retreat fitted up for his accommodation, and that of his young, either in the projecting wooden cornice, on the top of the roof, or sign-post, in the box appropriated to the bluebird; or, if all these be wanting, in the dove-house among the pigeons. In this last case, he sometimes takes possession of one quarter or tier of the premises, in which not a pigeon dare for a moment set its foot. Some people have large conveniencies formed for the martins, with many apartments, which are usually fully tenanted, and occupied regularly every spring; and, in such places, particular

individuals have been noted to return to the same box for several successive years. Even the solitary Indian seems to have a particular respect for this bird. The Chactaws and Chickasaws cut off all the top branches from a sapling near their cabins, leaving the prongs a foot or two in length, on each of which they hang a gourd, or calabash, properly hollowed out for their convenience. On the banks of the Mississippi, the negroes stick up long canes, with the same species of apartment fixed to their tops, in which the martins regularly breed. Wherever I have travelled in this country, I have seen with pleasure the hospitality of the inhabitants to this favourite bird.

As superseding the necessity of many of my own observations on this species, I beg leave to introduce in this place an extract of a letter from the late learned and venerable John Joseph Henry, Esq. judge of the supreme court of Pennsylvania, a man of most amiable manners, which was written to me but a few months before his death, and with which I am happy to honour my performance:—"The history of the purple martin of America," says he, "which is indigenous in Pennsylvania, and countries very far north of our latitude, will, under your control, become extremely interesting. We know its manners, habitudes, and useful qualities here; but we are not generally acquainted with some traits in its character, which, in my mind, rank it in the class of the most remarkable birds of passage. Somewhere (I cannot now refer to book and page) in Anson's *Voyage*, or in Dampier, or some other southern voyager, I recollect that the martin is named as an inhabitant of the regions of southern America, particularly of Chili; and, in consequence, from the knowledge we have of its immense emigration northward in our own country, we may fairly presume that its flight extends to the south as far as Terra del Fuego. If the conjecture be well founded, we may, with some certainty, place this useful and delightful companion and friend of the human race as the first in the order of birds of passage. Nature has furnished it with a lengthy, strong, and

nervous pinion; its legs are short, too, so as not to impede its passage; the head and body are flattish; in short, it has every indication, from bodily formation, that Providence intended it as a bird of the longest flight. Belknap speaks of it as a visitant of New Hampshire. I have seen it in great numbers at Quebec. Hearne speaks of it in lat. 60° north. To ascertain the times of the coming of the martin to New Orleans, and its migration to and from Mexico, Quito, and Chili, are desirable data in the history of this bird; but it is probable that the state of science in those countries renders this wish hopeless.

“Relative to the domestic history, if it may be so called, of the bluebird and the martin, permit me to give you an anecdote: In 1800 I removed from Lancaster to a farm a few miles above Harrisburgh. Knowing the benefit derivable to a farmer from the neighbourhood of the martin, in preventing the depredations of the bald eagle, the hawks, and even the crows, my carpenter was employed to form a large box, with a number of apartments for the martin. The box was put up in the autumn. Near and around the house were a number of well grown apple-trees and much shrubbery, a very fit haunt for the feathered race. About the middle of February, the bluebirds came; in a short time they were very familiar, and took possession of the box: these consisted of two or three pairs. By the 15th of May, the bluebirds had eggs, if not young. Now the martins arrived in numbers, visited the box, and a severe conflict ensued. The bluebirds, seemingly animated by their right of possession, or for the protection of their young, were victorious. The martins regularly arrived about the middle of May, for the eight following years, examined the apartments of the box, in the absence of the bluebirds, but were uniformly compelled to fly upon the return of the latter.

“The trouble caused you by reading this note you will be pleased to charge to the martin. A box replete with that beautiful traveller, is not very distant from

my bed-head. Their notes seem discordant because of their numbers; yet to me they are pleasing. The industrious farmer and mechanic would do well to have a box fixed near the apartments of their drowsy labourers. Just as the dawn approaches, the martin begins its notes, which last half a minute or more; and then subside until the twilight is fairly broken. An animated and incessant musical chattering now ensues, sufficient to arouse the most sleepy person. Perhaps chanticleer is not their superior in this beneficial qualification; and he is far beneath the martin in his powers of annoying birds of prey."

I shall add a few particulars to this faithful and interesting sketch by my deceased friend: About the middle, or 20th, of April, the martins first begin to prepare their nest. The last of these, which I examined, was formed of dry leaves of the weeping willow, slender straws, hay, and feathers, in considerable quantity. The eggs were four, very small for the size of the bird, and pure white, without any spots. The first brood appears in May, the second late in July. During the period in which the female is laying, and before she commences incubation, they are both from home the greater part of the day. When the female is sitting, she is frequently visited by the male, who also occupies her place while she takes a short recreation abroad. He also often passes a quarter of an hour in the apartment beside her, and has become quite domesticated since her confinement. He sits on the outside dressing and arranging his plumage, occasionally passing to the door of the apartment as if to inquire how she does. His notes, at this time, seem to have assumed a peculiar softness, and his gratulations are expressive of much tenderness. Conjugal fidelity, even where there is a number together, seems to be faithfully preserved by these birds. On the 25th of May, a male and female martin took possession of a box in Mr Bartram's garden. A day or two after, a second female made her appearance, and staid for several days; but, from the cold reception she met with, being frequently beat off by

the male, she finally abandoned the place, and set off, no doubt, to seek for a more sociable companion.

The purple martin, like his half-cousin the king bird, is the terror of crows, hawks, and eagles. These he attacks whenever they make their appearance, and with such vigour and rapidity, that they instantly have recourse to flight. So well known is this to the lesser birds, and to the domestic poultry, that, as soon as they hear the martin's voice, engaged in fight, all is alarm and consternation. To observe with what spirit and audacity this bird dives and sweeps upon and around the hawk or the eagle is astonishing. He also bestows an occasional bastinading on the king bird when he finds him too near his premises; though he will, at any time, instantly co-operate with him in attacking the common enemy.

The martin differs from all the rest of our swallows in the particular prey which he selects. Wasps, bees, large beetles, particularly those called by the boys *goldsmiths*, seem his favourite game. I have taken four of these large beetles from the stomach of a purple martin, each of which seemed entire, and even unbruised.

The flight of the purple martin unites in it all the swiftness, ease, rapidity of turning, and gracefulness of motion of its tribe. Like the swift of Europe, he sails much with little action of the wings. He passes through the most crowded parts of our streets, eluding the passengers with the quickness of thought; or plays among the clouds, gliding about at a vast height, like an aerial being. His usual note, *peuo peuo peuo*, is loud and musical; but is frequently succeeded by others more low and guttural. Soon after the 20th of August, he leaves Pennsylvania for the south.

This bird has been described, three or four different times, by European writers, as so many different species, — the Canadian swallow of Turton, and the great American martin of Edwards, being evidently the female of the present species. The violet swallow of the former author, said to inhabit Louisiana, differs in no respect from the present. Deceived by the appear-

ance of the flight of this bird, and its similarity to that of the swift of Europe, strangers from that country have also asserted that the swift is common to North America and the United States. No such bird, however, inhabits any part of this continent that I have as yet visited.

The purple martin is eight inches in length, and sixteen inches in extent; except the lores, which are black, and the wings and tail, which are of a brownish black, he is of a rich and deep purplish blue, with strong violet reflections; the bill is strong, the gap very large; the legs also short, stout, and of a dark dirty purple; the tail consists of twelve feathers, is considerably forked, and edged with purple blue; the eye full and dark.

The female measures nearly as large as the male; the upper parts are blackish brown, with blue and violet reflections thinly scattered; chin and breast, grayish brown; sides under the wings, darker; belly and vent, whitish, not pure, with stains of dusky and yellow ochre; wings and tail, blackish brown.

71. *HIRUNDO AMERICANA*, WILS. — *HIRUNDO RUF*A, GMELIN.

BARN SWALLOW, WILSON.

WILSON, PLATE XXXVIII. FIG. 1. MALE. — FIG. II. FEMALE.

THERE are but few persons in the United States unacquainted with this gay, innocent, and active little bird. Indeed the whole tribe are so distinguished from the rest of small birds by their sweeping rapidity of flight, their peculiar aerial evolutions of wing over our fields and rivers, and through our very streets, from morning to night, that the light of heaven itself, the sky, the trees, or any other common objects of nature, are not better known than the swallows. We welcome their first appearance with delight, as the faithful harbingers and companions of flowery spring, and ruddy summer; and when, after a long, frost-bound, and hoisterous winter we hear it announced that "The

swallows are come," what a train of charming ideas are associated with the simple tidings !

The wonderful activity displayed by these birds forms a striking contrast to the slow habits of most other animals. It may be fairly questioned, whether, among the whole feathered tribes which heaven has formed to adorn this part of creation, there be any that, in the same space of time, pass over an equal extent of surface with the swallow. Let a person take his stand on a fine summer evening by a new mown field, meadow, or river shore, for a short time, and among the numerous individuals of this tribe that flit before him, fix his eye on a particular one, and follow, for a while, all its circuitous labyrinths—its extensive sweeps—its sudden, rapidly reiterated zig-zag excursions, little inferior to the lightning itself, and then attempt, by the powers of mathematics, to calculate the length of the various lines it describes. Alas ! even his omnipotent fluxions would avail him little here, and he would soon abandon the task in despair. Yet, that some definite conception may be formed of this extent, let us suppose, that this little bird flies, in his usual way, at the rate of one mile in a minute, which, from the many experiments I have made, I believe to be within the truth ; and that he is so engaged for ten hours every day ; and further, that this active life is extended to ten years, (many of our small birds being known to live much longer, even in a state of domestication), the amount of all these, allowing three hundred and sixty-five days to a year, would give us two million one hundred and ninety thousand miles ; upwards of eighty-seven times the circumference of the globe ! Yet this little winged seraph, if I may so speak, who, in a few days, and at will, can pass from the borders of the arctic regions to the torrid zone, is forced, when winter approaches, to descend to the bottoms of lakes, rivers, and mill-ponds, to bury itself in the mud with eels and snapping turtles ; or to creep ingloriously into a cavern, a rat-hole, or a hollow tree, there to doze, with snakes, toads, and other reptiles, until the return

of spring! Is not this true, ye wise men of Europe and America, who have published so many *credible* narratives on this subject? The geese, the ducks, the cat-bird, and even the wren, which creeps about our outhouses in summer like a mouse, are all acknowledged to be migratory, and to pass to southern regions at the approach of winter: the swallow alone, on whom Heaven has conferred superior powers of wing, must sink in torpidity at the bottom of our rivers, or doze all winter in the caverns of the earth. I am myself something of a traveller, and foreign countries afford many novel sights: should I assert, that in some of my peregrinations I had met with a nation of Indians, all of whom, old and young, at the commencement of cold weather, descend to the bottom of their lakes and rivers, and there remain until the breaking up of frost; nay, should I affirm, that thousands of people in the neighbourhood of this city, regularly undergo the same semi-annual submersion,—that I myself had fished up a whole family of these from the bottom of Schuylkill, where they had lain *torpid* all winter, carried them home, and brought them all comfortably to themselves again—should I even publish this in the learned pages of the *Transactions* of our Philosophical Society, who would believe me? Is, then, the organization of a swallow less delicate than that of a man? Can a bird, whose vital functions are destroyed by a short privation of pure air and its usual food, sustain, for six months, a situation where the most robust man would perish in a few hours, or minutes? Away with such absurdities! they are unworthy of a serious refutation. I should be pleased to meet with a man who has been personally more conversant with birds than myself, who has followed them in their wide and devious routes—studied their various manners—mingled with and marked their peculiarities more than I have done; yet the miracle of a resuscitated swallow, in the depth of winter, from the bottom of a mill-pond, is, I confess, a phenomenon in ornithology that I have never met with.

What better evidence have we that these fleet-winged tribes, instead of following the natural and acknowledged migrations of many other birds, lie torpid all winter in hollow trees, caves, and other subterraneous recesses? That the chimney swallow, in the early part of summer, may have been found in a hollow tree, and in great numbers too, is not denied; such being, in some places of the country, (as has been shewn in the history of that species,) their actual places of rendezvous, on their first arrival, and their common roosting place long after; or that the bank swallows, also, soon after their arrival, in the early part of spring, may be chilled by the cold mornings which we frequently experience at that season, and be found in this state in their holes, I would as little dispute; but that either the one or the other has ever been found, *in the midst of winter* in a state of *torpidity*, I do not, cannot believe. Millions of trees, of all dimensions, are cut down every fall and winter of this country, where, in their proper season, swallows swarm around us. Is it therefore in the least probable that we should, only once or twice in an age, have no other evidence than one or two solitary and very suspicious reports of a Mr Somebody having made a discovery of this kind? If caves were their places of winter retreat, perhaps no country on earth could supply them with a greater choice. I have myself explored many of these, in various parts of the United States, both in winter and in spring, particularly in that singular tract of country in Kentucky, called the Barrens, where some of these subterraneous caverns are several miles in length, lofty and capacious, and pass under a large and deep river—have conversed with the saltpetre workers by whom they are tenanted; but never heard or met with one instance of a swallow having been found there in winter. These people treated such reports with ridicule.

It is to be regretted that a greater number of experiments have not been made, by keeping live swallows through the winter, to convince these believers in the torpidity of birds, of their mistake. That class of cold-

blooded animals which are *known* to become torpid during winter, and of which hundreds and thousands are found every season, are subject to the same when kept in a suitable room for experiment. How is it with the swallows in this respect? Much powerful testimony might be produced on this point; the following experiments recently made by Mr James Pearson of London, and communicated by Sir John Trevelyn, Bart. to Mr Bewick, the celebrated engraver in wood, will be sufficient for our present purpose, and throw great light on this part of the subject.*

“ Five or six of these birds were taken about the latter end of August, 1784, in a bat fowling-net at night. They were put separately into small cages, and fed with nightingale’s food: in about a week or ten days they took food of themselves; they were then put all together into a deep cage, four feet long, with gravel at the bottom; a broad shallow pan with water was placed in it, in which they sometimes washed themselves, and seemed much strengthened by it. One day Mr Pearson observed, that they went into the water with unusual eagerness, hurrying in and out again repeatedly with such swiftness as if they had been suddenly seized with a frenzy. Being anxious to see the result, he left them to themselves about half an hour, and, going to the cage again, found them all huddled together in a corner apparently dead; the cage was then placed at a proper distance from the fire, when only two of them recovered, and were as healthy as before—the rest died. The two remaining ones were allowed to wash themselves occasionally for a short time only; but their feet soon after became swelled and inflamed, which Mr Pearson attributed to their perching, and they died about Christmas. Thus the first year’s experiment was in some measure lost. Not discouraged by the failure of this, Mr Pearson determined to make a second trial the succeeding year, from a strong desire of being convinced

* See BEWICK’S *British Birds*, vol. i, p. 254.

of the truth of their going into a state of torpidity. Accordingly, the next season, having taken some more birds, he put them into the cage, and in every respect pursued the same methods as with the last; but, to guard their feet from the bad effects of the damp and cold, he covered the perches with flannel, and had the pleasure to observe, that the birds thrived extremely well; they sung their song during the winter, and, soon after Christmas, began to moult, which they got through without any difficulty, and lived three or four years, regularly moulting every year at the usual time. On the renewal of their feathers, it appeared that their tails were forked exactly the same as in those birds which return hither in the spring, and in every respect their appearance was the same. These birds, says Mr Pearson, were exhibited to the Society for promoting Natural History, on the 14th day of February, 1786, at the time they were in a deep moult, during a severe frost, when the snow was on the ground. Minutes of this circumstance were entered in the books of the society. These birds died at last from neglect, during a long illness which Mr Pearson had: they died in the summer. Mr Pearson concludes his very interesting account in these words:—20th January, 1797, I have now in my house, No. 21, Great Newport Street, Long Acre, four swallows in moult, in as perfect health as any birds ever appeared to be when moulting.”

The barn swallow of the United States has hitherto been considered by many writers as the same with the common chimney swallow of Europe. They differ, however, considerably in colour, as well as in habits; the European species having the belly and vent white, the American species those parts of a bright chestnut; the former building in the corners of chimneys, near the top, the latter never in such places; but usually in barns, sheds, and other outhouses, on beams, braces, rafters, &c. It is difficult to reconcile these constant differences of manners and markings in one and the

same bird ; I shall therefore take the liberty of considering the present as a separate and distinct species.

The barn swallow arrives in this part of Pennsylvania from the south on the last week in March, or the first week in April, and passes on to the north as far, at least, as the river St Lawrence. On the east side of the great range of the Alleghany, they are dispersed very generally over the country, wherever there are habitations, even to the summit of high mountains ; but, on account of the greater coldness of such situations, are usually a week or two later in making their appearance there. On the 16th of May, being on a shooting expedition on the top of Pocano mountain, Northampton, when the ice on that and on several successive mornings was more than a quarter of an inch thick, I observed, with surprise, a pair of these swallows which had taken up their abode on a miserable cabin there. It was then about sunrise, the ground white with hoar frost, and the male was twittering on the roof by the side of his mate with great sprightliness. The man of the house told me that a single pair came regularly there every season, and built their nest on a projecting beam under the eaves, about six or seven feet from the ground. At the bottom of the mountain, in a large barn belonging to the tavern there, I counted upwards of twenty nests, all seemingly occupied. In the woods they are never met with ; but, as you approach a farm, they soon catch the eye, cutting their gambols in the air. Scarcely a barn, to which these birds can find access, is without them ; and, as public feeling is universally in their favour, they are seldom or never disturbed. The proprietor of the barn last mentioned, a German, assured me, that if a man permitted the swallows to be shot, his cows would give bloody milk, and also that no barn where swallows frequented would ever be struck with lightning ; and I nodded assent. When the tenets of superstition "lean to the side of humanity," one can readily respect them. On the west side of the Alleghany these birds become more rare.

In travelling through the States of Kentucky and Tennessee, from Lexington to the Tennessee river, in the months of April and May, I did not see a single individual of this species; though the purple martin, and, in some places, the bank swallow, was numerous.

Early in May they begin to build. From the size and structure of the nest, it is nearly a week before it is completely finished. One of these nests, taken on the 21st of June from the rafter to which it was closely attached, is now lying before me. It is in the form of an inverted cone, with a perpendicular section cut off on that side by which it adhered to the wood. At the top it has an extension of the edge, or offset, for the male or female to sit on occasionally, as appeared by the dung; the upper diameter was about six inches by five, the height externally seven inches. This shell is formed of mud, mixed with fine hay, as plasterers do their mortar with hair, to make it adhere the better; the mud seems to have been placed in regular strata, or layers, from side to side; the hollow of this cone (the shell of which is about an inch in thickness) is filled with fine hay, well stuffed in; above that is laid a handful of very large downy geese feathers; the eggs are five, white, specked, and spotted all over with reddish brown. Owing to the semitransparency of the shell, the eggs have a slight tinge of flesh colour. The whole weighs about two pounds.

They have generally two brood in the season. The first make their appearance about the second week in June; and the last brood leave the nest about the 10th of August. Though it is not uncommon for twenty, and even thirty, pair to build in the same barn, yet every thing seems to be conducted with great order and affection; all seems harmony among them, as if the interest of each were that of all. Several nests are often within a few inches of each other; yet no appearance of discord or quarrelling takes place in this peaceful and affectionate community.

When the young are fit to leave the nest, the old ones entice them out by fluttering backwards and

forwards, twittering and calling to them every time they pass; and the young exercise themselves, for several days, in short essays of this kind, within doors, before they first venture abroad. As soon as they leave the barn, they are conducted by their parents to the trees, or bushes, by the pond, creek, or river shore, or other suitable situation, where their proper food is most abundant, and where they can be fed with the greatest convenience to both parties. Now and then they take a short excursion themselves, and are also frequently fed while on wing by an almost instantaneous motion of both parties, rising perpendicularly in air, and meeting each other. About the middle of August they seem to begin to prepare for their departure. They assemble on the roof in great numbers, dressing and arranging their plumage, and making occasional essays, twittering with great cheerfulness. Their song is a kind of sprightly warble, sometimes continued for a considerable time. From this period to the 8th of September, they are seen near the Schuylkill and Delaware, every afternoon, for two or three hours before sunset, passing along to the south in great numbers, feeding as they skim along. I have counted several hundreds pass within sight in less than a quarter of an hour, all directing their course towards the south. The reeds are now their regular roosting places; and, about the middle of September, there is scarcely an individual of them to be seen. How far south they continue their route is uncertain; none of them remain in the United States. Mr Bartram informs me, that, during his residence in Florida, he often saw vast flocks of this and our other swallows, passing from the peninsula towards the south in September and October; and also on their return to the north about the middle of March. It is highly probable, that, were the countries to the south of the Gulf of Mexico, and as far south as the great river Maranon, visited and explored by a competent naturalist, these regions would be found to be the winter rendezvous of the very birds now before us, and most of our other migratory tribes.

In a small volume which I have lately met with, entitled, *An Account of the British Settlement of Honduras*, by Captain George Henderson, of the 5th West India regiment, published in London in 1809, the writer, in treating of that part of its natural history which relates to birds, gives the following particulars:—"Myriads of swallows," says he, "are also the occasional inhabitants of Honduras. The time of their residence is generally confined to the period of the rains, [that is, from October to February,] after which, they totally disappear. There is something remarkably curious and deserving of notice in the ascent of these birds. As soon as the dawn appears they quit their place of rest, which is usually chosen amid the rushes of some watery savannah; and invariably rise to a certain height, in a compact spiral form, and which at a distance often occasions them to be taken for an immense column of smoke. This attained, they are then seen separately to disperse in search of food, the occupation of their day. To those who may have had the opportunity of observing the phenomenon of a water-spout, the similarity of evolution, in the ascent of these birds, will be thought surprisingly striking. The descent, which regularly takes place at sunset, is conducted much in the same way, but with inconceivable rapidity. And the noise which accompanies this can only be compared to the falling of an immense torrent, or the rushing of a violent gust of wind. Indeed, to an observer, it seems wonderful, that thousands of these birds are not destroyed, in being thus propelled to the earth with such irresistible force."*

How devoutly it is to be wished that the natural history of those regions were more precisely known, so absolutely necessary as it is to the perfect understanding of this department of our own!

The barn swallow is seven inches long, and thirteen inches in extent; bill, black; upper part of the head, neck, back, rump, and tail-coverts, steel blue, which

* HENDERSON'S *Honduras*, p. 119.

descends rounding on the breast; front and chin, deep chestnut; belly, vent, and lining of the wing, light chestnut; wings and tail, brown black, slightly glossed with reflections of green; tail, greatly forked, the exterior feather on each side an inch and a half longer than the next, and tapering towards the extremity, each feather, except the two middle ones, marked on its inner vane with an oblong spot of white; lores, black; eye, dark hazel; sides of the mouth, yellow; legs, dark purple.

The female differs from the male in having the belly and vent rufous white, instead of light chestnut; these parts are also slightly clouded with rufous; and the exterior tail-feathers are shorter.

These birds are easily tamed, and soon become exceedingly gentle and familiar. I have frequently kept them in my room for several days at a time, where they employed themselves in catching flies, picking them from my clothes, hair, &c. calling out occasionally as they observed some of their old companions passing the windows.

72. *HIRUNDO VIRIDIS*, WILSON. — *H. BICOLOR*, VIEILL.

GREEN, BLUE, OR WHITE BELLIED SWALLOW, WILSON.

WILSON, PLATE XXXVIII. FIG. III.

THIS is the species hitherto supposed by Europeans to be the same with their common martin, *hirundo urbica*, a bird no where to be found within the United States. The English martin is blue black above; the present species greenish blue; the former has the whole rump white, and the legs and feet are covered with short white downy feathers; the latter has nothing of either. That ridiculous propensity in foreign writers, to consider most of our birds as varieties of their own, has led them into many mistakes, which it shall be the business of the author of the present work to point out, decisively, wherever he may meet with them.

The white-bellied swallow arrives in Pennsylvania a

few days later than the preceding species. It often takes possession of an apartment in the boxes appropriated to the purple martin; and also frequently builds and hatches in a hollow tree. The nest consists of fine loose dry grass, lined with large downy feathers, rising above its surface, and so placed as to curl inwards, and completely conceal the eggs. These last are usually four or five in number, and pure white. They also have two brood in the season.

The voice of this species is low and guttural; they are more disposed to quarrel than the barn swallows, frequently fighting in the air for a quarter of an hour at a time, particularly in spring, all the while keeping up a low rapid chatter. They also sail more in flying; but, during the breeding season, frequent the same situations in quest of similar food. They inhabit the northern Atlantic States as far as the District of Maine, where I have myself seen them; and my friend Mr Gardner informs me, that they are found on the coast of Long Island and its neighbourhood. About the middle of July, I observed many hundreds of these birds sitting on the flat sandy beach near the entrance of Great Egg-Harbour. They were also very numerous among the myrtles of these low islands, completely covering some of the bushes. One man told me, that he saw one hundred and two shot at a single discharge. For some time before their departure, they subsist principally on the myrtle berries (*myrica cerifera*), and become extremely fat. They leave us early in September.

This species appears to have remained hitherto undescribed, owing to the misapprehension before mentioned. It is not perhaps quite so numerous as the preceding, and rarely associates with it to breed, never using mud of any kind in the construction of its nest.

The white-bellied swallow is five inches and three quarters long, and twelve inches in extent; bill and eye, black; upper parts, a light glossy greenish blue; wings, brown black, with slight reflections of green; tail, forked, the two exterior feathers being about a quarter

of an inch longer than the middle ones, and all of a uniform brown black; lores, black; whole lower parts, pure white; wings, when shut, extend about a quarter of an inch beyond the tail; legs, naked, short, and strong, and, as well as the feet, of a dark purplish flesh colour; claws, stout.

The female has much less of the greenish gloss than the male, the colours being less brilliant; otherwise alike.

73. *HIRUNDO RIPARIA*, LINN. — BANK SWALLOW, OR SAND MARTIN.

WILSON, PLATE XXXVIII. FIG. IV. — EDINBURGH COLLEGE MUSEUM.

THIS appears to be the most sociable with its kind, and the least intimate with man, of all our swallows; living together in large communities of sometimes three or four hundred. On the high sandy bank of a river, quarry, or gravel pit, at a foot or two from the surface, they commonly scratch out holes for their nests, running them in a horizontal direction to the depth of two and sometimes three feet. Several of these holes are often within a few inches of each other, and extend in various strata along the front of the precipice, sometimes for eighty or one hundred yards. At the extremity of this hole, a little fine dry grass, with a few large downy feathers, form the bed on which their eggs, generally five in number, and pure white, are deposited. The young are hatched late in May; and here I have taken notice of the common crow, in parties of four or five, watching at the entrance of these holes, to seize the first straggling young that should make its appearance. From the clouds of swallows that usually play round these breeding places, they remind one at a distance of a swarm of bees.

The bank swallow arrives here earlier than either of the preceding; begins to build in April, and has commonly two brood in the season. Their voice is a low

mutter. They are particularly fond of the shores of rivers, and, in several places along the Ohio, they congregate in immense multitudes. We have sometimes several days of cold rain and severe weather after their arrival in spring, from which they take refuge in their holes, clustering together for warmth, and have been frequently found at such times in almost a lifeless state with the cold; which circumstance has contributed to the belief that they lie torpid all winter in these recesses. I have searched hundreds of these holes in the months of December and January, but never found a single swallow, dead, living, or torpid. I met with this bird in considerable numbers on the shores of the Kentucky river, between Lexington and Danville. They likewise visit the sea shore, in great numbers, previous to their departure, which continues from the last of September to the middle of October.

The bank swallow is five inches long, and ten inches in extent; upper parts, mouse coloured, lower, white, with a band of dusky brownish across the upper part of the breast; tail, forked, the exterior feather slightly edged with whitish; lores and bill, black; legs, with a few tufts of downy feathers behind; claws, fine pointed and very sharp; over the eye, a streak of whitish; lower side of the shafts, white; wings and tail, darker than the body. The female differs very little from the male.

This bird appears to be in nothing different from the European species; from which circumstance, and its early arrival here, I would conjecture that it passes to a high northern latitude on both continents.

FAMILY X.

CANORI, ILLIGER.

GENUS XVI.—*MUSCICAPA*, LINNÆUS.

74. *MUSCICAPA TYRANNUS*, BRISSON, WILSON, AND LINNÆUS.

TYRANT FLYCATCHER, OR KING BIRD.

WILSON, PLATE XIII. FIG. 1. EDINBURGH COLLEGE MUSEUM.

THIS is the field martin of Maryland and some of the southern States, and the king bird of Pennsylvania and several of the northern districts. The epithet *tyrant*, which is generally applied to him by naturalists, I am not altogether so well satisfied with; some, however, may think the two terms pretty nearly synonymous.

The trivial name king as well as tyrant has been bestowed on this bird for its extraordinary behaviour, and the authority it assumes over all others, during the time of breeding. At that season his extreme affection for his mate, and for his nest and young, makes him suspicious of every bird that happens to pass near his residence, so that he attacks, without discrimination, every intruder. In the months of May, June, and part of July, his life is one continued scene of broils and battles; in which, however, he generally comes off conqueror. Hawks and crows, the bald eagle, and the great black eagle, all equally dread a rencounter with this dauntless little champion, who, as soon as he perceives one of these last approaching, launches into the air to meet him, mounts to a considerable height above him, and darts down on his back, sometimes fixing there to the great annoyance of his sovereign, who, if no convenient retreat or resting place be near, endeavours by various evolutions to rid himself of his merciless adversary. But the king bird is not so easily

dismounted. He teases the eagle incessantly, sweep upon him from right and left, remounts, that he may descend on his back with the greater violence; all the while keeping up a shrill and rapid twittering; and continuing the attack sometimes for more than a mile till he is relieved by some other of his tribe equally eager for the contest.

There is one bird, however, which, by its superior rapidity of flight, is sometimes more than a match for him; and I have several times witnessed his precipitate retreat before this active antagonist. This is the purple martin, one whose food and disposition is pretty similar to his own, but who has greatly the advantage of him on wing, in eluding all his attacks, and teasing him as he pleases. I have also seen the red-headed wood pecker, while clinging on a rail of the fence, amuse himself with the violence of the king bird, and play *bo-peep* with him round the rail, while the latter highly irritated, made every attempt, as he swept from side to side, to strike him, but in vain. All his turbulence, however, vanishes as soon as his young are able to shift for themselves; and he is then as mild and peaceable as any other bird.

But he has a worse habit than all these; one much more obnoxious to the husbandman, and often fatal to himself. He loves, not the honey, but the *bees*; and it must be confessed, is frequently on the look-out for these little industrious insects. He plants himself on a post of the fence, or on a small tree in the garden not far from the hives, and from thence sallies on them as they pass and repass, making great havoc among their numbers. His shrill twitter, so near to the house, gives intimation to the farmer of what is going on, and the gun soon closes his career for ever. Man arrogates to himself, in this case, the exclusive privilege of murder and, after putting thousands of these same little insect to death, seizes on the fruits of their labour.

The king birds arrive in Pennsylvania about the 20th of April, sometimes in small bodies of five and six together, and are at first very silent, until they begin to

MUSCICAPA TYRANNUS.

air, and build their nest. This generally takes place about the first week in May. The nest is very often built in the orchard, on the horizontal branch of an apple tree; frequently also, as Catesby observes, on a saffron tree, at no great height from the ground. The inside consists of small slender twigs, tops of withered flowers of the plant yarrow, and others, well woven together with tow and wool; and is made large, and remarkably firm and compact. It is usually lined with the dry fibrous grass, and horse hair. The eggs are five, of a very pale cream colour, or dull white, marked with few large spots of deep purple, and other smaller ones of light brown, chiefly, though not altogether, towards the great end. They generally build twice in the season.

The king bird is altogether destitute of song, having only the shrill twitter above mentioned. His usual mode of flight is singular. The vibrations of his broad wings, as he moves slowly over the fields, resemble those of a hawk hovering and settling in the air to reconnoitre the ground below; and the object of the king bird is no doubt something similar, viz. to look out for passing insects, either in the air, or among the flowers and blossoms below him. In fields of pasture he often takes his stand, on the tops of the mullein, and other rank weeds, near the cattle, and makes occasional leaps after passing insects, particularly the large black fly, so terrifying to horses and cattle. His eyes move restlessly around him, traces the flight of an insect for a moment or two, then that of a second, and then a third, until he perceives one to his liking, when, with a shrill sweep, he pursues, seizes it, and returns to the same spot again, to look out for more. This habit is so conspicuous when he is watching the bee-hive, that several intelligent farmers of my acquaintance are of opinion that he picks out only the drones, and never injures the working bees. Be this as it may, he certainly gives a preference to one bee, and one species of insect, over another. He hovers over the river, sometimes for considerable time, darting after insects that frequent such places, snatching them from the surface of the

water, and diving about in the air like a swallow ; for he possesses at will great powers of wing. Numbers of them are frequently seen thus engaged, for hours together, over the rivers Delaware and Schuylkill, in a calm day, particularly towards evening. He bathes himself by diving repeatedly into the water from the overhanging branches of some tree, where he sits to dry and dress his plumage.

Whatever antipathy may prevail against him for depredations on the drones, or, if you will, on the bees, I can assure the cultivator, that this bird is greatly his friend, in destroying multitudes of insects, whose larvæ prey on the harvests of his fields, particularly his corn, fruit trees, cucumbers, and pumpkins. These noxious insects are the daily food of this bird ; and he destroys, upon a very moderate average, some hundreds of them daily. The death of every king bird is therefore an actual loss to the farmer, by multiplying the numbers of destructive insects, and encouraging the depredations of crows, hawks, and eagles, who avoid as much as possible his immediate vicinity. For myself, I must say, that the king bird possesses no common share of my regard. I honour this little bird for his extreme affection for his young ; for his contempt of danger, and unexampled intrepidity ; for his meekness of behaviour when there are no calls on his courage, a quality which even in the human race is justly considered so noble :

In peace there's nothing so becomes a man
As modest stillness and humility ;
But when the blast of war, &c.

but above all, I honour and esteem this bird for the millions of ruinous vermin which he rids us of ; whose depredations, in *one* season, but for the services of this and other friendly birds, would far overbalance all the produce of the bee-hives in fifty.

As a friend to this persecuted bird, and an enemy to prejudices of every description, will the reader allow me to set this matter in a somewhat clearer light, by presenting him with a short poetical epitome of the king bird's history ?

Far in the south, where vast Maragnon flows,
 And boundless forests unknown wilds enclose ;
 Vine-tangled shores, and suffocating woods,
 Parch'd up with heat, or drown'd with pouring floods ;
 Where each extreme alternately prevails,
 And Nature sad their ravages bewails ;
 Lo ! high in air, above those trackless wastes,
 With Spring's return the king bird hither hastes ;
 Coasts the famed Gulf,* and, from his height, explores
 Its thousand streams, its long indented shores,
 Its plains immense, wide op'ning on the day,
 Its lakes and isles, where feather'd millions play ;
 All tempt not him : till, gazing from on high,
 COLUMBIA's regions wide below him lie ;
 There and his wand'rings and his wish to roam,
 There lie his native woods, his fields, his *home* ;
 Down, circling, he descends, from azure heights,
 And on a full-blown sassafras alights.

Fatigued and silent, for a while he views
 His old frequented haunts, and shades recluse,
 Sees brothers, comrades, every hour arrive —
 Hears, humming round, the tenants of the hive :
 Love fires his breast ; he woos, and soon is blest ;
 And in the blooming orchard builds his nest.

Come now, ye cowards ! ye whom heav'n disdains,
 Who boast the happiest home — the richest plains ;
 On whom, perchance, a wife, an infant's eye
 Hang as their hope, and on your arm rely ;
 Yet, when the hour of danger and dismay
 Comes on that country, sneak in holes away,
 Shrink from the perils ye were bound to face,
 And leave those babes and country to disgrace ;
 Come here, (if such we have,) ye dastard herd !
 And kneel in dust before this noble bird.

When the speck'd eggs within his nest appear,
 Then glows affection, ardent and sincere ;
 No discord sours him when his mate he meets ;
 But each warm heart with mutual kindness beats.
 For her repast he bears along the iea
 The bloated gadfly, and the balmy bee ;
 For her repose scours o'er th' adjacent farm,
 Whence hawks might dart, or lurking foes alarm ;
 For now abroad a band of ruffians prey,
 The crow, the cuckoo, and th' insidious jay ;

These, in the owner's absence, all destroy,
And murder every hope, and every joy.

Soft sits his brooding mate ; her guardian he,
Perch'd on the top of ~~some~~ tall neigh'ring tree ;
Thence, from the thicket to the concave skies,
His watchful eye around unceasing flies.
Wrens, thrushes, warblers, startled at his note,
Fly in affright the consecrated spot.
He drives the plund'ring *jay*, with honest scorn,
Back to his woods ; the *mock*er to his thorn ;
Sweeps round the *cuckoo*, as the thief retreats ;
Attacks the *crow* ; the diving *hawk* defeats ;
Darts on the *eagle* downwards from afar,
And, 'midst the clouds, prolongs the whirling war.
All danger o'er, he hastens back elate,
To guard his post, and feed his faithful mate.

Behold him now, his little family flown,
Meek, unassuming, silent, and alone ;
Lured by the well-known hum of fav'rite bees,
As slow he hovers o'er the garden trees ;
(For all have failings, passions, whims that lead ;
Some fav'rite wish, some appetite to feed ;)
Straight he alights, and, from the pear-tree, spies
The circling stream of humming insects rise ;
Selects his prey ; darts on the busy brood,
And shrilly twitters o'er his *sav'*ry food.

Ah ! ill-timed triumph ! direful note to thee,
That guides thy murderer to the fatal tree ;
See where he skulks ! and takes his gloomy stand,
The deep-charged musket hanging in his hand ;
And, gaunt for blood, he leans it on a rest,
Prepared, and pointed at thy snow-white breast.
Ah friend ! good friend ! forbear that barb'rous deed,
Against it valour, goodness, pity, bleed ;
If e'er a family's griefs, a widow's wo,
Have reach'd thy soul, in mercy let him go !
Yet, should the tear of pity nought avail,
Let *interest* speak, let *gratitude* prevail ;
Kill not thy friend, who thy whole harvest shields,
And sweeps ten thousand vermin from thy fields ;
Think how this dauntless bird, thy poultry's guard,
Drove ev'ry hawk and eagle from thy yard ;
Watch'd round thy cattle as they fed, and slew
The hungry black'ning swarms that round them flew ;
Some small return, some little right resign,
And spare *his* life whose services are thine !
— I plead in vain ! Amid the bursting roar,
The poor, lost king bird, welters in his gore !

This species is eight inches long, and fourteen in extent; the general colour above is a dark slaty ash; the head and tail are nearly black; the latter *even* at the end, and tipped with white; the wings are more of a brownish cast; the quills and wing-coverts are also edged with dull white; the upper part of the breast is tinged with ash; the throat, and all the rest of the lower parts, are pure white; the plumage on the crown, though not forming a crest, is frequently erected, and discovers a rich bed of brilliant orange, or flame colour, called by the country people his crown; when the feathers lie close, this is altogether concealed. The bill is very broad at the base, overhanging at the point, and notched, of a glossy black colour, and furnished with bristles at the base; the legs and feet are black, seamed with gray; the eye, hazel. The female differs in being more brownish on the upper parts, has a smaller streak of paler orange on the crown, and a narrower border of duller white on the tail. The young birds do not receive the orange on the head during their residence here the first season.

This bird is very generally known, from the Lakes to Florida. Besides insects, they feed, like every other species of their tribe with which I am acquainted, on various sorts of berries, particularly blackberries, of which they are extremely fond. Early in September they leave Pennsylvania, on their way to the south.

A few days ago, I shot one of these birds, the whole plumage of which was nearly white, or a little inclining to a cream colour; it was a bird of the present year, and could not be more than a month old. This appeared also to have been its original colour, as it issued from the egg. The skin was yellowish-white; the eye, much lighter than usual; the legs and bill, blue. It was plump and seemingly in good order. I presented it to Mr Peale. Whatever may be the cause of this loss of colour, if I may so call it, in birds, it is by no means uncommon among the various tribes that inhabit the United States. The sparrow hawk, sparrow, robin red-winged blackbird, and many others, are occasionally

und in white plumage; and I believe that such birds do not become so by climate, age, or disease, but that they are universally hatched so. The same phenomena are observable not only among various sorts of animals, but even among the human race; and a white negro is less common, in proportion to their numbers, than a white blackbird; though the precise cause of this in the latter is but little understood.

75. *MUSCICAPA CRINITA*, LINNÆUS AND WILSON.

GREAT CRESTED FLYCATCHER.

WILSON, PL. XIII. FIG. II.

THE bird now before us is less generally known than the preceding, being chiefly confined to the woods. Here his harsh *squeak*, for he has no song, is occasionally heard above most others. He also visits the orchard; is equally fond of bees; but wants the courage and magnanimity of the king bird. He arrives in Pennsylvania early in May, and builds his nest in a hollow tree, deserted by the bluebird or woodpecker. The materials of which this is formed are scanty, and rather novel. One of these nests, now before me, is formed of a little loose hay, feathers of the Guinea fowl, dogs' bristles, pieces of cast snake skins, and dogs' hair. Snake skins with this bird appear to be an indispensable article, for I have never yet found one of his nests without this material forming a part of it. Whether he surrounds his nest with this by way of *terrorem*, to prevent other birds or animals from entering; or whether it be that he finds its silky softness suitable for his young, is uncertain; the fact, however, is notorious. The female lays four eggs of a dull cream colour, thickly cratched with purple lines of various tints as if done with a pen.

This species is eight inches and a half long, and thirteen inches in extent; the upper parts are of a dull greenish olive; the feathers on the head are pointed, entered with dark brown, ragged at the sides, and form

a kind of blowzy crest; the throat, and upper parts of the breast, delicate ash; rest of the lower parts, a sulphur yellow; the wing-coverts are pale drab, crossed with two bars of dull white; the primaries are of a bright ferruginous, or sorrel colour; the tail is slightly forked,, its interior vanes of the same bright ferruginous as the primaries; the bill is blackish, very much like that of the king bird, furnished also with bristles; the eye is hazel; legs and feet, bluish black. The female can scarcely be distinguished, by its colours, from the male.

This bird also feeds on berries towards the end of summer, particularly on huckle-berries, which, during the time they last, seem to form the chief sustenance of the young birds. I have observed this species here as late as the 10th of September; rarely later. They do not, to my knowledge, winter in any of the southern States.

76. *MUSCICAPA QUERULA*, WILSON. — *M. ACADICA*, GMELIN.

SMALL GREEN CRESTED FLYCATCHER.

WILSON, PLATE XIII. FIG. III.

THIS bird is but little known. It inhabits the deepest, thick shaded, solitary parts of the woods, sits generally on the lower branches, utters, every half minute or so, a sudden sharp squeak, which is heard a considerable way through the woods; and, as it flies from one tree to another, has a low querulous note, something like the twitterings of chickens nestling under the wings of the hen. On alighting, this sound ceases, and it utters its note as before. It arrives from the south about the middle of May; builds on the upper side of a limb, in a low swampy part of the woods, and lays five white eggs. It leaves us about the beginning of September. It is a rare and very solitary bird, always haunting the most gloomy, moist, and unfrequented parts of the forest. It feeds on flying insects, devours bees, and, in the season of huckle-berries, they form the chief part of its food. Its northern migrations extend as far as Newfoundland.

The length of this species is five inches and a half; breadth, nine inches; the upper parts are of a green olive colour, the lower, pale greenish yellow, darkest on the breast; the wings are deep brown, crossed with two bars of yellowish white, and a ring of the same surrounds the eye, which is hazel. The tail is rounded at the end; the bill is remarkably flat and broad, dark brown above, and flesh colour below; legs and feet, pale ash. The female differs little from the male in colour.

77. *MUSCICAPA NUNCIOLA*, WILSON. — *M. FUSCA*, GMELIN.

PEWIT FLYCATCHER.

THIS well-known bird is one of our earliest spring visitants, arriving in Pennsylvania about the first week in March, and continuing with us until October. I have seen them here as late as the 12th of November. In the month of February, I overtook these birds lingering in the low swampy woods of North and South Carolina. They were feeding on smilax berries, and chanting, occasionally, their simple notes. The favourite resort of this bird is by streams of water, under or near bridges, in caves, &c. Near such places he sits on a projecting twig, calling out, *pe-wee, pe-wittitee pe-wee*, for a whole morning; darting after insects, and returning to the same twig; frequently flirting his tail, like the wagtail, though not so rapidly. He begins to build about the 20th or 25th of March, on some projecting part under a bridge, in a cave, in an open well, five or six feet down among the interstices of the side walls, often under a shed, in the low eaves of a cottage, and such like places. The outside is composed of mud mixed with moss, is generally large and solid, and lined with flax and horse hair. The eggs are five, pure white, with two or three dots of red near the great end. I have known them rear three brood in one season.

In a particular part of Mr Bartram's woods, with which I am acquainted, by the side of a small stream, is a cave, five or six feet high, formed by the under-

mining of the water below, and the projection of two large rocks above :—

There down smooth glist'ning rocks the rivulet pours,
Till in a pool its silent waters sleep,
A dark brow'd cliff, o'ertopp'd with fern and flowers,
Hangs, grimly louring, o'er the glassy deep ;
Above through every chink the woodbines creep,
And smooth-bark'd beeches spread their arms around,
Whose roots cling twisted round the rocky steep ;
A more sequester'd scene is no where found,
For contemplation deep, and silent thought profound.

In this cave I knew the pewit to build for several years. The place was solitary, and he was seldom disturbed. In the month of April, one fatal Saturday, a party of boys from the city, armed with guns, dealing indiscriminate destruction among the feathered tribes around them, directed their murderous course this way, and, within my hearing, destroyed both parents of this old and peaceful settlement. For two successive years, and I believe to this day, there has been no pewee seen about this place. This circumstance almost convinces me that birds, in many instances, return to the same spots to breed; and who knows, but, like the savage nations of Indians, they may usurp a kind of exclusive right of tenure, to particular districts, where they themselves have been reared?

The notes of the pewee, like those of the bluebird, are pleasing, not for any melody they contain, but from the ideas of spring and returning verdure, with all the sweets of this lovely season, which are associated with his simple but lively ditty. Towards the middle of June, he becomes nearly silent; and, late in the fall, gives us a few farewell and melancholy repetitions, that recall past imagery, and make the decayed and withered face of nature appear still more melancholy.

The pewit is six inches and a half in length, and nine and a half broad; the upper parts are of a dark dusky olive; the plumage of the head, like those of the two preceding, is loose, subcrested, and of a deep brownish black; wings and tail, deep dusky; the former edged,

on every feather, with yellowish white, the latter forked, and widening remarkably towards the end; bill, formed exactly like that of the king bird; whole lower parts, a pale delicate yellow; legs and bill, wholly black; iris, hazel. The female is almost exactly like the male, except in having the crest somewhat more brown. This species inhabits from Canada to Florida; great numbers of them usually wintering in the two Carolinas and Georgia. In New York, they are called the phœby bird, and are accused of destroying bees. With many people in the country, the arrival of the pewee serves as a sort of almanack, reminding them that now it is time such and such work should be done. "Whenever the pewit appears," says Mr Bartram, "we may plant peas and beans in the open grounds, French beans, sow radishes, onions, and almost every kind of esculent garden seeds, without fear or danger from frosts; for, although we have sometimes frosts after their first appearance for a night or two, yet not so severe as to injure the young plants."*

78. *MUSCICAPA RATA*, WILSON. — *M. VIRENS*, LINNÆUS.

WOOD PEWEE FLYCATCHER.

I HAVE given the name of wood pewee to this species, to discriminate it from the preceding, which it resembles so much in form and plumage as scarcely to be distinguished from it, but by an accurate examination of both. Yet in manners, mode of building, period of migration, and notes, the two species differ greatly. The pewee is among the first birds that visit us in spring, frequenting creeks, building in caves, and under arches of bridges; the wood pewee, the subject of our present account, is among the latest of our summer birds, seldom arriving before the 12th or 15th of May; frequenting the shadiest high timbered woods, where there is little underwood, and abundance of dead twigs

* *Travels*, p. 288.

and branches shooting across the gloom; generally in low situations; builds its nest on the upper side of a limb or branch, forming it outwardly of moss, but using no mud, and lining it with various soft materials. The female lays five white eggs; and the first brood leave the nest about the middle of June.

This species is an exceeding expert flycatcher. It loves to sit on the high dead branches, amid the gloom of the woods, calling out in a feeble, plaintive tone, *peto wāy, peto wāy, pee way*; occasionally darting after insects; sometimes making a circular sweep of thirty or forty yards, snapping up numbers in its way with great adroitness; and returning to its position and chant as before. In the latter part of August, its notes are almost the only ones to be heard in the woods; about which time also, it even approaches the city, where I have frequently observed it busily engaged under trees, in solitary courts, gardens, &c. feeding and training its young to their profession. About the middle of September, it retires to the south, a full month before the other.

Length, six inches; breadth, ten; back, dusky olive, inclining to greenish; head, subcrested, and brownish black; tail, forked and widening towards the tips, lower parts, pale yellowish white. The only discriminating marks between this and the preceding, are the size, and the colour of the lower mandible, which, in this, is yellow; in the pewée, black. The female is difficult to be distinguished from the male.

This species is far more numerous than the preceding, and, probably, winters much farther south. The pewée was numerous in North and South Carolina in February; but the wood pewée had not made its appearance in the lower parts of Georgia, even so late as the 16th of March.

79. *MUSCICAPA RUTICILLA*, LINNÆUS AND WILSON.

AMERICAN REDSTART.

WILSON, PLATE VI. FIG. VI.—ADULT MALE.—EDINBURGH COLLEGE MUSEUM.

THOUGH this bird has been classed by several of our most respectable ornithologists among the warblers, yet in no species are the characteristics of the genus *muscapa* more decisively marked; and, in fact, it is one of the most expert flycatchers of its tribe. It is almost perpetually in motion; and will pursue a retreating party of flies from the tops of the tallest trees, in an almost perpendicular, but zig-zag direction, to the ground, while the clicking of its bill is distinctly heard; and I doubt not but it often secures ten or twelve of these in a descent of three or four seconds. It then alights on an adjoining branch, traverses it lengthwise for a few moments, flirting its expanded tail from side to side, and suddenly shoots off, in a direction quite unexpected, after fresh game, which it can discover at a great distance. Its notes, or twitter, though animated and sprightly, are not deserving the name of song; sometimes they are *weëse, weëse, weëse*, repeated every quarter of a minute, as it skips among the branches; at other times this twitter varies to several other chants, which I can instantly distinguish in the woods, but cannot find words to imitate. The interior of the forest, the borders of swamps and meadows, deep glens covered with wood, and wherever flying insects abound, there this little bird is sure to be seen. It makes its appearance in Pennsylvania, from the south, late in April; and leaves us again about the beginning of September. It is very generally found over the whole United States; and has been taken at sea, in the fall, on its way to St Domingo,* and other of the West India islands, where it winters,† along with many more of our summer visitants. It is also found in Jamaica, where it remains all winter.

* Edwards.

† Sloane.

The name of redstart, evidently derived from the German rothsterls, (red tail,) has been given this bird from its supposed resemblance to the redstart of Europe (*motacilla phoenicurus*); but besides being decisively of a different genus, it is very different both in size and in the tints and disposition of the colours of its plumage. Buffon goes even so far as to question whether the differences between the two be more than what might naturally be expected from change of climate. This eternal reference of every animal of the New World to that of the Old, if adopted to the extent of this writer, with all the transmutations it is supposed to have produced, would leave us in doubt whether even the ka-te-dids* of America were not originally nightingales of the Old World, degenerated by the inferiority of the food and climate of this upstart continent. We have in America many different species of birds that approach so near in resemblance to one another, as not to be distinguished but by the eye of a naturalist, and on a close comparison; these live in the same climate, feed on the same food, and are, I doubt not, the same now as they were five thousand years ago; and, ten thousand years hence, if the species then exist, will be found marked with the same nice discriminations as at present. Is it therefore surprising, that two different species, placed in different quarters of the world, should have certain near resemblances to one another, without being bastards, or degenerated descendants, the one of the other, when the whole chain of created beings seem united to each other by such amazing gradations, that bespeak, not random chance and accidental degeneracy, but the magnificent design of an incomprehensibly wise and omnipotent Creator?

The American redstart builds frequently in low bushes, or on the drooping branches of the elm, within a few feet of the ground, fastening its nest to two twigs; outwardly it is formed of flax, well wound together, and moistened with its saliva, interspersed

* A species of gryllus, well known for its lively chatter during the evenings and nights of September and October.

here and there with pieces of lichen, and lined with a very soft downy substance. The female lays five white eggs, sprinkled with gray, and specks of blackish. The male is extremely anxious for its preservation; and, on a person's approaching the place, will flirt about within a few feet, seeming greatly distressed.

The length of this species is five inches, extent, six and a quarter; the general colour above is black, which covers the whole head and neck, and spreads on the upper part of the breast in a rounding form; where, as well as on the head and neck, it is glossed with steel blue; sides of the breast below this, black, the inside of the wings, and upper half of the wing quills, are of a fine aurora colour; but the greater and lesser coverts of the wings, being black, conceal this; and the orange, or aurora colour, appears only as a broad transverse band across the wings; from thence to the tip, they are brownish; the four middle feathers of the tail are black, the other eight of the same aurora colour, and black towards the tips; belly and vent, white, slightly streaked with pale orange; legs, black; bill, of the true *musci-capa* form, triangular at the base, beset with long bristles, and notched near the point; the female has not the rich aurora band across the wing; her back and crown are cinereous, inclining to olive; the white below is not so pure; lateral feathers of the tail and sides of the breast, greenish yellow; middle tail feathers, dusky brown. The young males of a year old are almost exactly like the female, differing in these particulars, that they have a yellow band across the wings which the female has not, and the back is more tinged with brown; the lateral tail feathers, are also yellow; middle ones, brownish black; inside of the wings, yellow. On the third season, they receive their complete colours; and, as males of the second year, in nearly the dress of the female, are often seen in the woods, having the same notes as the full plumaged male, it has given occasion to some people to assert, that the females sing as well as the males; and others have taken them for another species. The fact, however, is as I have stated

it. This bird is too little known by people in general to have any provincial name.

80. *MUSCICAPA RUTICILLA*. -- REDSTART.

WILSON, PLATE XLV. FIG. II. -- YOUNG BIRD.

THE male of this species has just been described; the present is the young bird as he appears for the first two seasons: the female differs very little from it, and chiefly in the green olive being more inclined to ash.

This is one of our summer birds, and, from the circumstance of being found off Hispaniola in November, is supposed to winter in the islands. They leave Pennsylvania about the 20th of September; are dexterous flycatchers, though ranked by European naturalists among the warblers, having the bill notched and beset with long bristles.

In its present dress the redstart makes its appearance in Pennsylvania about the middle or 20th of April; and, from being heard chanting its few sprightly notes, has been supposed by some of our own naturalists to be a different species. I have, however, found both parents of the same nest in the same dress nearly; the female, eggs and nest, as well as the notes of the male, agreeing exactly with those of the redstart; evidence sufficiently satisfactory to me.

Head above, dull slate; throat, pale buff; sides of the breast and four exterior tail feathers, fine yellow, tipped with dark brown; wings and back, greenish olive; tail-coverts, blackish, tipped with ash; belly, dull white; no white or yellow on the wings; legs, dirty purplish brown; bill, black.

The redstart extends very generally over the United States; having myself seen it on the borders of Canada, and also in the Mississippi territory.

This species has the constant habit of flirting its expanded tail from side to side, as it runs along the branches, with its head levelled almost in a line with its body; occasionally shooting off after winged insects,

in a downward zig-zag direction, and, with admirable dexterity, snapping its bill as it descends. Its notes are few and feeble, repeated at short intervals, as it darts among the foliage; having at some times a resemblance to the sounds *sic, sic, saic*; at others of *weesy, weesy, weesy*; which last seems to be its call for the female, while the former appears to be its most common note.

GENUS XVII. — *ICTERIA*, VIEILL.

81. *ICTERIA VIRIDIS*, BONAPARTE. — *PIPER POLYGLOTTA*, WILS.

YELLOW-BREASTED CHAT.

WILSON, PLATE VI. FIG. II.

THIS is a very singular bird. In its voice and manners, and the habit it has of keeping concealed, while shifting and vociferating around you, it differs from most other birds with which I am acquainted, and has considerable claims to originality of character. It arrives in Pennsylvania about the first week in May, and returns to the south again as soon as its young are able for the journey, which is usually about the middle of August; its term of residence here being scarcely four months. The males generally arrive several days before the females, a circumstance common with many other of our birds of passage.

When he has once taken up his residence in a favourite situation, which is almost always in close thickets of hazel, brambles, vines, and thick underwood, he becomes very jealous of his possessions, and seems offended at the least intrusion; scolding every passenger as soon as they come within view, in a great variety of odd and uncouth monosyllables, which it is difficult to describe, but which may be readily imitated, so as to deceive the bird himself, and draw him after you for half a quarter of a mile at a time, as I have sometimes amused myself in doing, and frequently without once seeing him. On these occasions, his responses are constant and rapid, strongly expressive of anger and anxiety; and while

the bird itself remains unseen, the voice shifts from place to place, among the bushes, as if it proceeded from a spirit. First is heard a repetition of short notes, resembling the whistling of the wings of a duck or teal, beginning loud and rapid, and falling lower and slower, till they end in detached notes; then a succession of others, something like the barking of young puppies, is followed by a variety of hollow, guttural sounds, each eight or ten times repeated, more like those proceeding from the throat of a quadruped than that of a bird; which are succeeded by others not unlike the mewing of a cat, but considerably hoarser. All these are uttered with great vehemence, in such different keys, and with such peculiar modulations of voice, as sometimes to seem at a considerable distance, and instantly as if just beside you; now on this hand, now on that; so that, from these manœuvres of ventriloquism, you are utterly at a loss to ascertain from what particular spot or quarter they proceed. If the weather be mild and serene, with clear moonlight, he continues gabbling in the same strange dialect, with very little intermission, during the whole night, as if disputing with his own echoes; but probably with a design of inviting the passing females to his retreat; for, when the season is farther advanced, they are seldom heard during the night.

About the middle of May they begin to build. Their nest is usually fixed in the upper part of a bramble bush, in an almost impenetrable thicket; sometimes in a thick vine or small cedar; seldom more than four or five feet from the ground. It is composed outwardly of dry leaves, within these are laid thin strips of the bark of grape-vines, and the inside is lined with fibrous roots of plants, and fine dry grass. The female lays four eggs, slightly flesh-coloured, and speckled all over with spots of brown or dull red. The young are hatched in twelve days; and make their first excursion from the nest about the second week in June. A friend of mine, an amateur in canary birds, placed one of the chat's eggs under a hen canary, who brought it out; but it

died on the second day; though she was so solicitous to feed and preserve it, that her own eggs, which required two days more sitting, were lost through her attention to this.

While the female of the chat is sitting, the cries of the male are still more loud and incessant. When once aware that you have seen him, he is less solicitous to conceal himself; and will sometimes mount up into the air, almost perpendicularly, to the height of thirty or forty feet, with his legs hanging; descending as he rose, by repeated jerks, as if highly irritated, or, as is vulgarly said, "dancing mad." All this noise and gesticulation we must attribute to his extreme affection for his mate and young; and when we consider the great distance which in all probability he comes, the few young produced at a time, and that seldom more than once in the season, we can see the wisdom of Providence very manifestly in the ardency of his passions. Mr Catesby seems to have first figured the yellow-breasted chat; and the singularity of its manners has not escaped him. After repeated attempts to shoot one of them, he found himself completely baffled; and was obliged, as he himself informs us, to employ an Indian for that purpose, who did not succeed without exercising all his ingenuity. Catesby also observed its dancing manœuvres, and supposed that it always flew with its legs extended; but it is only in these paroxysms of rage and anxiety that this is done, as I have particularly observed.

The food of these birds consists chiefly of large black beetles, and other shelled insects; I have also found whortleberries frequently in their stomach, in great quantities, as well as several other sorts of berries. They are very numerous in the neighbourhood of Philadelphia, particularly on the borders of rivulets, and other watery situations, in hedges, thickets, &c. but are seldom seen in the forest, even where there is underwood. Catesby indeed asserts, that they are only found on the banks of large rivers, two or three hundred miles from the sea; but, though this may be the case in South Carolina,

yet in Maryland and New Jersey, and also in New York, I have met with these birds within two hours' walk of the sea, and in some places within less than a mile of the shore. I have not been able to trace him to any of the West India islands; though they certainly retire to Mexico, Guiana, and Brazil, having myself seen skins of these birds in the possession of a French gentleman, which were brought from the two latter countries.

European naturalists have differed very much in classing this bird. That the judicious Mr Pennant, Gmelin, and even Dr Latham, however, should have arranged it with the flycatchers, is certainly very extraordinary; as neither in the particular structure of its bill, tongue, feet, nor in its food or manners, has it any affinity whatever to that genus. Some other ornithologists have removed it to the tanagers; but the bill of the chat when compared with that of the summer red bird, bespeaks it at once to be of a different tribe. Besides, the tanagers seldom lay more than two or three eggs; the chat usually four: the former build on trees; the latter in low thickets. In short, though this bird will not exactly correspond with any known genus, yet the form of its bill, its food, and many of its habits, would almost justify us in classing it with the genus *pipra* (Manakin), to which family it seems most nearly related.

The yellow-breasted chat is seven inches long, and nine inches in extent; the whole upper parts are of a rich and deep olive green, except the tips of the wings, and interior vanes of the wing and tail feathers, which are dusky brown; the whole throat and breast is of a most brilliant yellow, which also lines the inside of the wings, and spreads on the sides immediately below; the belly and vent are white; the front, slate coloured, or dull cinereous; lores, black; from the nostril, a line of white extends to the upper part of the eye, which it nearly encircles; another spot of white is placed at the base of the lower mandible, the bill is strong, slightly curved, sharply ridged on the top, compressed, over-

hanging a little at the tip, not notched, pointed, and altogether black; the tongue is tapering, more fleshy than those of the *muscapa* tribe, and a little lacerated at the tip; the nostril is oval, and half covered with an arching membrane; legs and feet, light blue, hind claw rather the strongest, the two exterior toes united to the second joint.

The female may be distinguished from the male by the black and white adjoining the eye being less intense or pure than in the male; and in having the inside of the mouth of a dirty flesh colour, which, in the male, is black; in other respects, their plumage is nearly alike.

GENUS XVIII. — *VIREO*, VIEILL.

82. *VIREO FLAVIFRONS*, VIEILL. — *MUSCICAPA SYLVICOLA*, WILS.

YELLOW-THROATED CHAT.

WILSON, PLATE VII. FIG. III. — EDINBURGH COLLEGE MUSEUM.

THIS summer species is found chiefly in the woods, hunting among the high branches; and has an indolent and plaintive note, which it repeats with some little variation, every ten or twelve seconds, like *preed*, *preed*, &c. It is often heard in company with the red-eyed flycatcher (*muscapa olivacea*), or whip-tom-kelly of Jamaica; the loud energetic notes of the latter, mingling with the soft languid warble of the former, producing an agreeable effect, particularly during the burning heat of noon, when almost every other songster but these two is silent. Those who loiter through the shades of our magnificent forests at that hour, will easily recognize both species. It arrives from the south early in May; and returns again with its young about the middle of September. Its nest, which is sometimes fixed on the upper side of a limb, sometimes on a horizontal branch among the twigs, generally on a tree, is composed outwardly of thin

strips of the bark of grape vines, moss, lichen, &c. and lined with fine fibres of such like substances ; the eggs, usually four, are white, thinly dotted with black, chiefly near the great end. Winged insects are its principal food.

Whether this species has been described before or not, I must leave to the sagacity of the reader, who has the opportunity of examining European works of this kind, to discover.* I have met with no description in Pennant, Buffon, or Latham, that will properly apply to this bird, which may perhaps be owing to the imperfection of the account, rather than ignorance of the species, which is by no means rare.

The yellow-throated flycatcher is five inches and a half long, and nine inches from tip to tip of the expanded wings ; the upper part of the head, sides of the neck, and the back, are of a fine yellow olive ; throat, breast, and line over the eye, which it nearly encircles, a delicate lemon yellow, which, in a lighter tinge, lines the wings ; belly and vent, pure silky white ; lesser wing-coverts, lower part of the back, and rump, ash ; wings, deep brown, almost black, crossed with two white bars ; primaries, edged with light ash, secondaries, with white ; tail, a little forked, of the same brownish black with the wings, the three exterior feathers edged on each vane with white ; legs and claws, light blue ; the two exterior toes united to the middle one, as far as the second joint ; bill, broad at the base, with three or four slight bristles, the upper mandible overhanging the lower at the point, near which it is deeply notched ; tongue, thin, broad, tapering near the end, and bifid ; the eye, is of a dark hazel ; and the whole bill of a dusky light blue. The female differs very little in colour from the male ; the yellow on the breast, and round the eye, is duller, and the white on the wings less pure.

* See Orange-throated Warbler, LATHAM, Syn. ii, 481, 103.

88. *PIREO SOLITARIUS*, VIEILL. — *MUSCICAPA SOLITARIA*, WILS.

SOLITARY FLYCATCHER.

WILSON, PLATE XVII. FIG. VI.

THIS rare species I can find no where described. I have myself never seen more than three of them, all of whom corresponded in their markings; and, on dissection, were found to be males. It is a silent, solitary bird. It is also occasionally found in the State of Georgia, where I saw a drawing of it in the possession of Mr Abbot, who considered it a very scarce species. He could give me no information of the female. The present one was shot in Mr Bartram's woods, near Philadelphia, among the branches of dogwood, in the month of October. It appears to belong to a particular family, or subdivision of the *muscapa* genus, among which are the white-eyed, the yellow-throated, and several others already described in the present work. Why one species should be so rare, while another, much resembling it, is so numerous, at least a thousand for one, is a question I am unable to answer, unless by supposing the few we meet with here to be accidental stragglers from the great body, which may have their residence in some other parts of our extensive continent.

The solitary flycatcher is five inches long, and eight inches in breadth; cheeks, and upper part of the head and neck, a fine bluish gray; breast, pale cinereous; flanks and sides of the breast, yellow; whole back and tail-coverts, green olive; wings, nearly black; the first and second row of coverts, tipped with white; the three secondaries next the body, edged with pale yellowish white; the rest of the quills bordered with light green; tail, slightly forked, of the same tint as the wings, and edged with light green; from the nostrils a line of white proceeds to and encircles the eye; lores, black; belly and vent, white; upper mandible, black; lower, light blue; legs and feet, light blue; eyes, hazel.

84. *VIREO GILVUS*, BONAPARTE. — *MUSCICAPA MELODIA*, WILSON.

WARBLING FLYCATCHER.

WILSON, PLATE XLII. FIG. II.

THIS sweet little warbler is for the first time described. In its general appearance it resembles the red-eyed flycatcher; but, on a close comparison, differs from that bird in many particulars. It arrives in Pennsylvania about the middle of April, and inhabits the thick foliage of orchards and high trees; its voice is soft, tender, and soothing, and its notes flow in an easy continued strain that is extremely pleasing. It is often heard among the weeping willows and Lombardy poplars of this city; is rarely observed in the woods; but seems particularly attached to the society of man. It gleams among the leaves, occasionally darting after winged insects, and searching for caterpillars; and seems by its manners to partake considerably of the nature of the genus *sylvia*. It is late in departing, and I have frequently heard its notes among the fading leaves of the poplar in October.

This little bird may be distinguished from all the rest of our songsters by the soft, tender, easy flow of its notes, while hid among the foliage. In these there is nothing harsh, sudden, or emphatical; they glide along in a kind of meandering strain, that is peculiarly its own. In May and June it may be generally heard in the orchards, the borders of the city, and around the farm house.

This species is five inches and a half long, and eight inches and a half in extent; bill, dull lead colour above, and notched near the point, lower, a pale flesh colour; eye, dark hazel; line over the eye, and whole lower parts, white, the latter tinged with very pale greenish yellow near the breast; upper parts, a pale green olive; wings, brown, broadly edged with pale olive green; tail, slightly forked, edged with olive; the legs and feet, pale lead; the head inclines a little to ash; no

white on the wings or tail. Male and female nearly alike.

85. *PIREO OLIVACEUS*, BONAPARTE. — *MUSCICAPA OLIVACEA*,
WILSON.

RED-EYED FLYCATCHER.

WILSON, PLATE XII. FIG. II.

THIS is a numerous species, though confined chiefly to the woods and forests, and, like all the rest of its tribe that visit Pennsylvania, is a bird of passage. It arrives here late in April; has a loud, lively, and energetic song, which it continues, as it hunts among the thick foliage, sometimes for an hour with little intermission. In the months of May, June, and to the middle of July, it is the most distinguishable of all the other warblers of the forest; and even in August, long after the rest have almost all become mute, the notes of the red-eyed flycatcher are frequently heard with unabated spirit. These notes are in short, emphatical bars, of two, three, or four syllables. In Jamaica, where this bird winters, and is probably also resident, it is called, as Sloane informs us, whip-tom-kelly, from an imagined resemblance of its notes to these words. And, indeed, on attentively listening for some time to this bird in his full ardour of song, it requires but little of imagination to fancy that you hear it pronounce these words, "tom kelly, whip-tom-kelly!" very distinctly. It inhabits from Georgia to the river St Lawrence, leaving Pennsylvania about the middle of September.

This bird builds, in the month of May, a small, neat, pensile nest, generally suspended between two twigs of a young dogwood or other small sapling. It is hung by the two upper edges, seldom at a greater height than four or five feet from the ground. It is formed of pieces of hornets' nests, some flax, fragments of withered leaves, slips of vine bark, bits of paper, all

glued together with the saliva of the bird, and the silk of caterpillars, so as to be very compact; the inside is lined with fine slips of grape vine bark, fibrous grass, and sometimes hair. These nests are so durable, that I have often known them to resist the action of the weather for a year; and, in one instance, I have found the nest of the yellow bird built in the cavity of one of those of the preceding year. The mice very often take possession of them after they are abandoned by the owners. The eggs are four, sometimes five, pure white, except near the great end, where they are marked with a few small dots of dark brown or reddish. They generally raise two brood in the season.

The red-eyed flycatcher is one of the adopted nurses of the cow bird, and a very favourite one, shewing all the symptoms of affection for the foundling, and as much solicitude for its safety, as if it were its own. A particular account of the history of that singular bird has already been given.

Before I take leave of this bird, it may not be amiss to observe that there is another, and a rather less species of flycatcher, somewhat resembling the red-eyed, which is frequently found in its company. Its eyes are hazel; its back more cinereous than the other, and it has a single light streak over the eye. The notes of this bird are low, somewhat plaintive, but warbled out with great sweetness; and form a striking contrast with those of the red-eyed flycatcher. I think it probable that Dr Barton had reference to this bird when he made the following remarks, (see his *Fragments of the Natural History of Pennsylvania*, page 19):—" *Muscicapa olivacea*.—I do not think with Mr Pennant that this is the same bird as the whip-tom-kelly of the West Indies. Our bird has no such note; but a great variety of soft, tender, and agreeable notes. It inhabits forests; and does not, like the West India bird, build a pendulous nest." Had the learned professor, however, examined into this matter with his usual accuracy, he would have found, that the *muscicapa olivacea*, and the soft and tender songster he mentions, are two very

distinct species; and that both the one and the other actually build very curious pendulous nests.

This species is five inches and a half long, and seven inches in extent; crown, ash, slightly tinged with olive, bordered on each side with a line of black, below which is a line of white passing from the nostril over and a little beyond the eye; the bill is longer than usual with birds of its tribe, the upper mandible overhanging the lower considerably, and notched, dusky above, and light blue below; all the rest of the plumage above is of a yellow olive, relieved on the tail and at the tips of the wings with brown; chin, throat, breast, and belly, pure white; inside of the wings and vent feathers, greenish yellow; the tail is very slightly forked; legs and feet, light blue; iris of the eye, red. The female is marked nearly in the same manner, and is distinguishable only by the greater obscurity of the colours.

86. *PIREO NOVEBORACENSIS*, BONAPARTE. — *MUSCICAPA*
CANTATRIX, WILSON.

WHITE-EYED FLYCATCHER.

WILSON, PLATE XVIII. FIG. VI.

THIS is another of the cow bird's adopted nurses; a lively, active, and sociable little bird, possessing a strong voice for its size, and a great variety of notes; and singing, with little intermission, from its first arrival, about the middle of April, to a little before its departure in September. On the 27th of February, I heard this bird in the southern parts of the State of Georgia, in considerable numbers, singing with great vivacity. They had only arrived a few days before. Its arrival in Pennsylvania, after an interval of seven weeks, is a proof that our birds of passage, particularly the smaller species, do not migrate at once from south to north; but progress daily, keeping company, as it were, with the advances of spring. It has been observed in the neighbourhood of Savannah so late as

the middle of November; and probably winters in Mexico and the West Indies.

This bird builds a very neat little nest, often in the figure of an inverted cone; it is suspended by the upper edge of the two sides, on the circular bend of a prickly vine,—a species of smilax that generally grows in low thickets. Outwardly, it is constructed of various light materials, bits of rotten wood, fibres of dry stalks of weeds, pieces of paper, commonly newspapers, an article almost always found about its nest, so that some of my friends have given it the name of the *politician*; all these substances are interwoven with the silk of caterpillars, and the inside is lined with fine dry grass and hair. The female lays five eggs, pure white, marked near the great end with a very few small dots of deep black or purple. They generally raise two brood in a season. They seem particularly attached to thickets of this species of smilax, and make a great ado when any one comes near their nest; approaching within a few feet, looking down, and scolding with great vehemence. In Pennsylvania they are a numerous species.

The white-eyed flycatcher is five inches and a quarter long, and seven in extent; the upper parts are a fine yellow olive, those below, white, except the sides of the breast, and under the wings, which are yellow; line round the eye, and spot near the nostril, also rich yellow; wings, deep dusky black, edged with olive green, and crossed with two bars of pale yellow; tail, forked, brownish black, edged with green olive; bill, legs, and feet, light blue; the sides of the neck incline to a greyish ash. The female and young of the first season are scarcely distinguishable in plumage from the male.

GENUS XIX. — *LANIUS*, LINNÆUS.87. *LANIUS EXCUBITOR*, WILSON. — *LANIUS BOREALIS*, VIRELL.

AMERICAN SHRIKE, OR BUTCHER BIRD.

WILSON, PLATE V. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THE form and countenance of this bird bespeak him full of courage and energy ; and his true character does not belie his appearance, for he possesses these qualities in a very eminent degree.

This species is by no means numerous in the lower parts of Pennsylvania ; though most so during the months of November, December, and March. Soon after this, it retires to the north, and to the higher inland parts of the country to breed. It frequents the deepest forests ; builds a large and compact nest in the upright fork of a small tree ; composed outwardly of dry grass, and whitish moss, and warmly lined within with feathers. The female lays six eggs, of a pale cinereous colour, thickly marked at the greater end with spots and streaks of rufous. She sits fifteen days. The young are produced early in June, sometimes towards the latter end of May ; and during the greater part of the first season are of a brown ferruginous colour on the back.

When we compare the beak of this species with his legs and claws, they appear to belong to two very different orders of birds ; the former approaching in its conformation to that of the accipitrine ; the latter to those of the pies ; and, indeed, in his food and manners he is assimilated to both. For though man has arranged and subdivided this numerous class of animals into separate tribes and families, yet nature has united these to each other by such nice gradations, and so intimately that it is hardly possible to determine where one tribe ends, or the succeeding commences. We therefore find several eminent naturalists classing this genus of bird with the accipitrine, others with the pies. Like th

former, he preys occasionally on other birds ; and, like the latter, on insects, particularly grasshoppers, which I believe to be his principal food ; having at almost all times, even in winter, found them in his stomach. In the month of December, and while the country was deeply covered with snow, I shot one of these birds near the head waters of the Mohawk river, in the State of New York, the stomach of which was entirely filled with large black spiders. He was of a much purer white, above, than any I have since met with ; though evidently of the same species with the present ; and I think it probable that the males become lighter coloured as they advance in age, till the minute transverse lines of brown on the lower parts almost disappear.

In his manners he has more resemblance to the pies than to birds of prey, particularly in the habit of carrying off his surplus food, as if to hoard it for future exigencies ; with this difference, that crows, jays, magpies, &c. conceal theirs at random, in holes and crevices, where, perhaps, it is forgotten, or never again found ; while the butcher-bird sticks his on thorns and bushes, where it shrivels in the sun, and soon becomes equally useless to the hoarder. Both retain the same habits in a state of confinement, whatever the food may be that is presented to them.

This habit of the shrike of seizing and impaling grasshoppers and other insects on thorns, has given rise to an opinion, that he places these carcasses there by way of baits, to allure small birds to them, while he himself lies in ambush to surprise and destroy them. In this, however, they appear to allow him a greater portion of reason and contrivance than he seems entitled to, or than other circumstances will altogether warrant ; for we find, that he not only serves grasshoppers in this manner, but even small birds themselves, as those have assured me who have kept them in cages in this country, and amused themselves with their manœuvres. If so, we might as well suppose the farmer to be inviting crows to his corn when he hangs up their carcasses

around it, as the butcher bird to be decoying small birds by a display of the dead bodies of their comrades!

In the *Transactions of the American Philosophical Society*, vol. iv, p. 124, the reader may find a long letter on this subject from John Heckewelder, of Bethlehem, to Dr Barton; the substance of which is as follows:—That on the 17th of December, 1795, he (Mr Heckewelder) went to visit a young orchard which had been planted a few weeks before, and was surprised to observe on every one of the trees one, and on some two and three grasshoppers, stuck down on the sharp thorny branches; that, on inquiring of his tenant the reason of this, he informed him, that they were stuck there by a small bird of prey, called, by the Germans, *Neuntoedter*, (nine killer,) which caught and stuck nine grasshoppers a-day; and he supposed, that as the bird itself never fed on grasshoppers, it must do it for pleasure. Mr Heckewelder now recollected, that one of those nine killers had, many years before, taken a favourite bird of his out of his cage at the window; since which, he had paid particular attention to it; and being perfectly satisfied that it lived entirely on mice and small birds, and, moreover, observing the grasshoppers on the trees all fixed in natural positions, as if alive, he began to conjecture that this was done to decoy such small birds as feed on these insects to the spot, that he might have an opportunity of devouring them. “If it were true,” says he, “that this little hawk had stuck them up for himself, how long would he be in feeding on one or two hundred grasshoppers? But if it be intended to seduce the smaller birds to feed on these insects, in order to have an opportunity of catching them, that number, or even one-half, or less, may be a good bait all winter,” &c.

This is, indeed, a very pretty fanciful theory, and would entitle our bird to the epithet *fowler*, perhaps with more propriety than *lanius*, or *butcher*; but, notwithstanding the attention which Mr Heckewelder professes to have paid to this bird, he appears not only

to have been unacquainted that grasshoppers were, in fact, the favourite food of this nine killer, but never once to have considered, that grasshoppers would be but a very insignificant and tasteless bait for our winter birds, which are chiefly those of the finch kind, that feed almost exclusively on hard seeds and gravel; and among whom five hundred grasshoppers might be stuck up on trees and bushes, and remain there untouched by any of them for ever. Besides, where is his necessity of having recourse to such refined stratagems, when he can, at any time, seize upon small birds by mere force of flight? I have seen him, in an open field, dart after one of our small sparrows with the rapidity of an arrow, and kill it almost instantly. Mr William Bartram long ago informed me, that one of these shrikes had the temerity to pursue a snow bird (*F. Hudsonica*) into an open cage, which stood in the garden; and, before they could arrive to its assistance, had already strangled and scalped it, though he lost his liberty by the exploit. In short, I am of opinion, that his resolution and activity are amply sufficient to enable him to procure these small birds whenever he wants them, which, I believe, is never but when hard pressed by necessity, and a deficiency of his favourite insects; and that the crow or the blue jay may, with the same probability, be supposed to be laying baits for mice and flying squirrels, when they are hoarding their Indian corn, as he for birds, while thus disposing of the exuberance of his favourite food. Both the former and the latter retain the same habits in a state of confinement; the one filling every seam and chink of his cage with grain, crumbs of bread, &c., and the other sticking up, not only insects, but flesh, and the bodies of such birds as are thrown in to him, on nails or sharpened sticks fixed up for the purpose. Nor, say others, is this practice of the shrike difficult to be accounted for. Nature has given to this bird a strong, sharp, and, powerful beak, a broad head, and great strength in the muscles of his neck; but his legs, feet, and claws, are,

by no means, proportionably strong; and are unequal to the task of grasping and tearing his prey, like those of the owl and falcon kind. He, therefore, wisely avails himself of the powers of the former, both in strangling his prey, and in tearing it to pieces while feeding.

The character of the butcher bird is entitled to no common degree of respect. His activity is visible in all his motions; his courage and intrepidity beyond every other bird of his size, (one of his own tribe only excepted, *L. tyrannus*, or king bird;) and in affection for his young, he is surpassed by no other. He associates with them in the latter part of summer, the whole family hunting in company. He attacks the largest hawk or eagle in their defence, with a resolution truly astonishing; so that all of them respect him, and, on every occasion, decline the contest. As the snows of winter approach, he descends from the mountainous forests, and from the regions of the north, to the more cultivated parts of the country, hovering about our hedgerows, orchards, and meadows, and disappears again early in April.

The great American shrike is ten inches in length, and thirteen in extent; the upper part of the head, neck, and back, is pale cinereous; sides of the head, nearly white, crossed with a bar of black that passes from the nostril, through the eye, to the middle of the neck; the whole under parts, in some specimens, are nearly white, in others more dusky, and thickly marked with minute transverse curving lines of light brown; the wings are black, tipped with white, with a single spot of white on the primaries, just below their coverts; the scapulars, or long downy feathers that fall over the upper part of the wing, are pure white; the rump and tail-coverts, a very fine gray or light ash; the tail is cuneiform, consisting of twelve feathers, the two middle ones wholly black, the others tipped more and more with white to the exterior ones, which are nearly all white; the legs, feet, and claws, are black; the beak straight, thick, of a light blue colour, the upper mandible

furnished with a sharp process, bending down greatly at the point, where it is black, and beset at the base with a number of long black hairs or bristles; the nostrils are also thickly covered with recumbent hairs; the iris of the eye is a light hazel; pupil, black. The female is easily distinguished by being ferruginous on the back and head; and having the band of black extending only behind the eye, and of a dirty brown or burnt colour; the under parts are also something rufous, and the curving lines more strongly marked; she is rather less than the male, which is different from birds of prey in general, the females of which are usually the larger of the two.

In the *Arctic Zoology*, we are told that this species is frequent in Russia, but does not extend to Siberia; yet one was taken within Behring's Straits, on the Asiatic side, in lat. 66°; and the species probably extends over the whole continent of North America, from the western ocean. Mr Bell, while on his travels through Russia, had one of these birds given him, which he kept in a room, having fixed up a sharpened stick for him in the wall; and on turning small birds loose in the room, the butcher bird instantly caught them by the throat in such a manner as soon to suffocate them; and then stuck them on the stick, pulling them on with bill and claws; and so served as many as were turned loose, one after another, on the same stick.*

88. *LANIUS CAROLINENSIS*, WILSON.

LANIUS LUDOVICIANUS, LINNÆUS. — **LOGGERHEAD SHRIKE.**

WILSON, PLATE XXII. FIG. V. — EDINBURGH COLLEGE MUSEUM.

THIS species has a considerable resemblance to the great American shrike. It differs, however, from that bird in size, being a full inch shorter; and in colour,

* EDWARDS, vol. vii. p. 231.

being much darker on the upper parts ; and in having the frontlet black. It also inhabits the warmer parts of the United States ; while the great American shrike is chiefly confined to the northern regions, and seldom extends to the south of Virginia.

This species inhabits the rice plantations of Carolina and Georgia, where it is protected for its usefulness in destroying mice. It sits, for hours together, on the fence, beside the stacks of rice, watching like a cat ; and as soon as it perceives a mouse, darts on it like a hawk. It also feeds on crickets and grasshoppers. Its note, in March, resembles the clear creaking of a sign-board in windy weather. It builds its nest, as I was informed, generally in a detached bush, much like that of the mocking bird ; but, as the spring was not then sufficiently advanced, I had no opportunity of seeing its eggs. It is generally known by the name of the loggerhead.

This species is nine inches long, and thirteen in extent ; the colour above is cinereous, or dark ash ; scapulars and line over the eye, whitish ; wings, black, with a small spot of white at the base of the primaries, and tipped with white ; a stripe of black passes along the front, through each eye, half way down the side of the neck ; eye, dark hazel, sunk below the eyebrow ; tail, cuneiform, the four middle feathers wholly black ; the four exterior ones, on each side, tipped more and more with white to the outer one, which is nearly all white ; whole lower parts, white ; and in some specimens, both of males and females, marked with transverse lines of very pale brown ; bill and legs, black.

The female is considerably darker both above and below, but the black does not reach so high on the front ; it is also rather less in size.

GENUS XX.—*TURDUS*, LINNÆUS.89. *TURDUS POLYGLOTTUS*, LINNÆUS AND WILSON.

MOCKING BIRD.

WILSON, PLATE X. FIG. I.—EDINBURGH COLLEGE MUSEUM.

THIS celebrated and very extraordinary bird, in extent and variety of vocal powers, stands unrivalled by the whole feathered songsters of this, or perhaps any other country; and shall receive from us, in this place, all that attention and respect which superior merit is justly entitled to.

Among the many novelties which the discovery of this part of the western continent first brought into notice, we may reckon that of the mocking bird; which is not only peculiar to the New World, but inhabits a very considerable extent of both North and South America; having been traced from the States of New England to Brazil; and also among many of the adjacent islands. They are, however, much more numerous in those States south, than in those north, of the river Delaware; being generally migratory in the latter, and resident (at least many of them) in the former. A warm climate, and low country, not far from the sea, seem most congenial to their nature; accordingly, we find the species less numerous to the west than east of the great range of the Alleghany, in the same parallels of latitude. In the severe winter of 1808-9, I found these birds, occasionally, from Fredericksburg, in Virginia, to the southern parts of Georgia; becoming still more numerous the farther I advanced to the south. The berries of the red cedar, myrtle, holly, Cassine shrub, many species of smilax, together with gum berries, gall berries, and a profusion of others with which the luxuriant swampy thickets of those regions abound, furnish them with a perpetual feast. Winged insects, also, of which they are very fond, and remarkably expert at catching, abound there even in winter, and are an additional inducement to residency. Though rather a shy bird in the Northern

States, here he appeared almost half domesticated, feeding on the cedars and among the thickets of smilax that lined the roads, while I passed within a few feet; playing around the planter's door, and hopping along the shingles. During the month of February, I sometimes heard a solitary one singing; but on the 2d of March, in the neighbourhood of Savannah, numbers of them were heard on every hand, vying in song with each other, and with the brown thrush, making the whole woods vocal with their melody. Spring was at that time considerably advanced; and the thermometer ranging between 70 and 78 degrees. On arriving at New York, on the 22d of the same month, I found many parts of the country still covered with snow, and the streets piled with ice to the height of two feet; while neither the brown thrush, nor mocking bird were observed, even in the lower parts of Pennsylvania, until the 20th of April.

The precise time at which the mocking bird begins to build his nest, varies according to the latitude in which he resides. In the lower parts of Georgia, he commences building early in April; but in Pennsylvania, rarely before the 10th of May; and in New York, and the States of New England, still later. There are particular situations to which he gives the preference. A solitary thorn bush; an almost impenetrable thicket; an orange tree, cedar, or holly bush, are favourite spots, and frequently selected. It is no great objection with him that these happen, sometimes, to be near the farm, or mansion-house: always ready to defend, but never over anxious to conceal, his nest, he very often builds within a small distance of the house; and not unfrequently in a pear or apple tree; rarely at a greater height than six or seven feet from the ground. The nest varies a little with different individuals, according to the conveniency of collecting suitable materials. A very complete one is now lying before me, and is composed of the following substances. First, a quantity of dry twigs and sticks, then withered tops of weeds, of the preceding year, intermixed with

fine straws, hay, pieces of wool and tow ; and, lastly, a thick layer of fine fibrous roots, of a light brown colour, lines the whole. The eggs are four, sometimes five, of a cinereous blue, marked with large blotches of brown. The female sits fourteen days ; and generally produces two brood in the season, unless robbed of her eggs, in which case she will even build and lay the third time. She is, however, extremely jealous of her nest, and very apt to forsake it if much disturbed. It is even asserted by some of our bird dealers, that the old ones will actually destroy the eggs, and poison the young, if either the one or the other have been handled. But I cannot give credit to this unnatural report. I know, from my own experience, at least, that it is not always their practice ; neither have I ever witnessed a case of the kind above mentioned. During the period of incubation, neither cat, dog, animal, or man, can approach the nest without being attacked. The cats, in particular, are persecuted whenever they make their appearance, till obliged to retreat. But his whole vengeance is most particularly directed against that mortal enemy of his eggs and young, the black snake. Whenever the insidious approaches of this reptile are discovered, the male darts upon it with the rapidity of an arrow, dexterously eluding its bite, and striking it violently and incessantly about the head, where it is very vulnerable. The snake soon becomes sensible of its danger, and seeks to escape ; but the intrepid defender of his young redoubles his exertions, and, unless his antagonist be of great magnitude, often succeeds in destroying him. All its pretended powers of fascination avail it nothing against the vengeance of this noble bird. As the snake's strength begins to flag, the mocking bird seizes and lifts it up, partly, from the ground, beating it with his wings ; and, when the business is completed, he returns to the repository of his young, mounts the summit of the bush, and pours out a torrent of song in token of victory.

As it is of some consequence to be able to distinguish a young male bird from a female, the following marks

may be attended to ; by which some pretend to be able to distinguish them in less than a week after they are hatched. These are, the breadth and purity of the white on the wings, for that on the tail is not so much to be depended on. This white, in a full grown male bird, spreads over the whole nine primaries, down to, and considerably below, their coverts, which are also white, sometimes slightly tipped with brown. The white of the primaries also extends equally far on both vanes of the feathers. In the female, the white is less pure, spreads over only seven or eight of the primaries, does not descend so far, and extends considerably farther down on the broad, than on the narrow side of the feathers. The black is also more of a brownish cast.

The young birds, if intended for the cage, ought not to be left till they are nearly ready to fly ; but should be taken rather young than otherwise ; and may be fed, every half hour, with milk, thickened with Indian meal ; mixing occasionally with it a little fresh meat, cut or minced very fine. After they begin to eat of their own accord, they ought still to be fed by hand, though at longer intervals, and a few cherries, strawberries, &c. now and then thrown in to them. The same sort of food, adding grasshoppers and fruit, particularly the various kinds of berries in which they delight ; and plenty of clear, fine gravel, is found very proper for them after they are grown up. Should the bird at any time appear sick or dejected, a few spiders thrown in to him will generally remove these symptoms of disease.

If the young bird is designed to be taught by an old one, the best singer should be selected for this office, and no other allowed to be beside him. Or, if by the bird organ, or mouth-whistling, it should be begun early, and continued, pretty constantly, by the same person, until the scholar, who is seldom inattentive, has completely acquired his lesson. The best singing birds, however, in my own opinion, are those that have been reared in the country, and educated under the

tuition of the feathered choristers of the surrounding fields, groves, woods, and meadows.

The plumage of the mocking bird, though none of the homeliest, has nothing gaudy or brilliant in it; and, had he nothing else to recommend him, would scarcely entitle him to notice; but his figure is well proportioned, and even handsome. The ease, elegance, and rapidity of his movements, the animation of his eye, and the intelligence he displays in listening and laying up lessons from almost every species of the feathered creation within his hearing, are really surprising, and mark the peculiarity of his genius. To these qualities we may add that of a voice full, strong, and musical, and capable of almost every modulation, from the clear mellow tones of the wood thrush, to the savage scream of the bald eagle. In measure and accent, he faithfully follows his originals. In force and sweetness of expression, he greatly improves upon them. In his native groves, mounted on the top of a tall bush, or half-grown tree, in the dawn of dewy morning, while the woods are already vocal with a multitude of warblers, his admirable song rises pre-eminent over every competitor. The ear can listen to *his* music alone, to which that of all the others seems a mere accompaniment. Neither is this strain altogether imitative. His own native notes, which are easily distinguishable by such as are well acquainted with those of our various song birds, are bold and full, and varied seemingly beyond all limits. They consist of short expressions of two, three, or, at the most, five or six syllables; generally interspersed with imitations, and all of them uttered with great emphasis and rapidity; and continued, with undiminished ardour, for half an hour, or an hour, at a time. His expanded wings and tail, glistening with white, and the buoyant gaiety of his action, arresting the eye, as his song most irresistibly does the ear, he sweeps round with enthusiastic ecstasy—he mounts and descends as his song swells or dies away; and, as my friend Mr Bartram has beautifully expressed it,

"He bounds aloft with the celerity of an arrow, as if to recover or recall his very soul, expired in the last elevated strain."* While thus exerting himself, a bystander destitute of sight would suppose that the whole feathered tribes had assembled together, on a trial of skill; each striving to produce his utmost effect; so perfect are his imitations. He many times deceives the sportsman, and sends him in search of birds that perhaps are not within miles of him; but whose notes he exactly imitates: even birds themselves are frequently imposed on by this admiral mimic, and are decoyed by the fancied calls of their mates; or dive, with precipitation, into the depth of thickets, at the scream of what they suppose to be the sparrow hawk.

The mocking bird loses little of the power and energy of his song by confinement. In his domesticated state, when he commences his career of song, it is impossible to stand by uninterested. He whistles for the dog; Cæsar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about with hanging wings, and bristled feathers, clucking to protect its injured brood. The barking of the dog, the mewing of the cat, the creaking of a passing wheelbarrow, follow, with great truth and rapidity. He repeats the tune taught him by his master, though of considerable length, fully and faithfully. He runs over the quiverings of the canary, and the clear whistlings of the Virginia nightingale, or red bird, with such superior execution and effect, that the mortified songsters feel their own inferiority, and become altogether silent; while he seems to triumph in their defeat by redoubling his exertions.

This excessive fondness for variety, however, in the opinion of some, injures his song. His elevated imitations of the brown thrush are frequently interrupted by the crowing of cocks; and the warblings of the bluebird, which he exquisitely manages, are mingled with the

* *Travels*, p. 32. *Introduction*.

screaming of swallows, or the cackling of hens ; amidst the simple melody of the robin, we are suddenly surprised by the shrill reiterations of the whip-poor-will ; while the notes of the killdeer, blue jay, martin, baltimore, and twenty others, succeed, with such imposing reality, that we look round for the originals, and discover, with astonishment, that the sole performer in this singular concert is the admirable bird now before us. During this exhibition of his powers, he spreads his wings, expands his tail, and throws himself around the cage in all the ecstasy of enthusiasm, seeming not only to sing, but to dance, keeping time to the measure of his own music. Both in his native and domesticated state, during the solemn stillness of night, as soon as the moon rises in silent majesty, he begins his delighful solo ; and serenades us the livelong night with a full display of his vocal powers, making the whole neighbourhood ring with his inimitable medley.*

Were it not to seem invidious in the eyes of foreigners, I might, in this place, make a comparative statement between the powers of the mocking bird, and the only bird, I believe, in the world, worthy of being compared with him,—the European nightingale. This, however, I am unable to do from my own observation, having never myself heard the song of the latter ; and, even if I had, perhaps something might be laid to the score of

* The hunters in the southern States, when setting out on an excursion by night, as soon as they hear the mocking bird begin to sing, know that the moon is rising.

A certain anonymous author, speaking of the mocking birds in the Island of Jamaica, and their practice of singing by moonlight, thus gravely philosophizes, and attempts to account for the habit. " It is not certain," says he, " whether they are kept so wakeful by the clearness of the light, or by any extraordinary attention and vigilance, at such times, for the protection of their nursery from the piratical assaults of the owl and the night hawk. It is possible that fear may operate upon them, much in the same manner as it has been observed to affect some cowardly persons, who whistle stoutly in a lonesome place, while their mind is agitated with the terror of thieves or hobgoblins."—*History of Jamaica*, vol. iii, p. 894, quarto.

partiality, which, as a faithful biographer, I am anxious to avoid. I shall, therefore, present the reader with the opinion of a distinguished English naturalist, and curious observer, on this subject, the Honourable Daines Barrington, who, at the time he made the communication, was vice-president of the Royal Society, to which it was addressed.*

"It may not be improper here," says this gentleman, "to consider whether the nightingale may not have a very formidable competitor in the American mocking bird, though almost all travellers agree, that the concert in the European woods is superior to that of the other parts of the globe." "I have happened, however, to hear the American mocking bird, in great perfection, at Messrs Vogels and Scotts, in Love Lane, Eastcheap. This bird is believed to be still living, and hath been in England these six years. During the space of a minute, he imitated the woodlark, chaffinch, blackbird, thrush, and sparrow; I was told also that he would bark like a dog; so that the bird seems to have no choice in his imitations, though his pipe comes nearest to our nightingale of any bird I have yet met with. With regard to the original notes, however, of this bird, we are still at a loss, as this can only be known by those who are accurately acquainted with the song of the other American birds. Kalm indeed informs us, that the natural song is excellent;† but this traveller seems not to have been long enough in America to have distinguished what were the genuine notes: with us, mimics do not often succeed but in imitations. I have little doubt, however, but that this bird would be fully equal to the song of the nightingale in its whole compass; but then, from the attention which the mocker pays to any other sort of disagreeable noise, these capital notes would be always debased by a bad mixture."

On this extract I shall make a few remarks. If, as is here conceded, the mocking bird be fully equal to

* *Philosophical Transactions*, vol. lxii, part ii, p. 284.

† *Travels*, vol. i, p. 219.

the song of the nightingale, and, as I can with confidence add, not only to that, but to the song of almost every other bird, besides being capable of exactly imitating various other sounds and voices of animals,—his vocal powers are unquestionably superior to those of the nightingale, which possesses its own native notes alone. Farther, if we consider, as is asserted by Mr Barrington, that “one reason of the nightingale’s being more attended to than others is, that it sings in the night;” and if we believe with Shakespeare, that

The nightingale, if she should sing by day
When every goose is cackling, would be thought
No better a musician than a wren,

what must we think of that bird, who, in the glare of day, when a multitude of songsters are straining their throats in melody, overpowers all competition, and, by the superiority of his voice, expression, and action, not only attracts every ear, but frequently strikes dumb his mortified rivals; when the silence of night, as well as the bustle of day, bear witness to his melody; and when even in captivity, in a foreign country, he is declared, by the best judges in that country, to be fully equal to the song of their sweetest bird *in its whole compass*? The supposed degradation of his song by the introduction of extraneous sounds, and unexpected imitations, is, in fact, one of the chief excellencies of this bird; as these changes give a perpetual novelty to his strain, keep attention constantly awake, and impress every hearer with a deeper interest in what is to follow. In short, if we believe in the truth of that mathematical axiom, that the whole is greater than a part, all that is excellent or delightful, amusing or striking, in the music of birds, must belong to that admirable songster, whose vocal powers are equal to the whole compass of their whole strains.

The native notes of the mocking bird have a considerable resemblance to those of the brown thrush, but may easily be distinguished, by their greater rapidity, sweetness, energy of expression, and variety. Both, however, have, in many parts of the United States, particularly

in those to the south, obtained the name of *mocking bird*; the first, or brown thrush, from its inferiority of song, being called the French, and the other the English *mocking bird*,—a mode of expression probably originating in the prejudices of our forefathers, with whom every thing French was inferior to every thing English.*

The *mocking bird* is frequently taken in trap cages, and, by proper management, may be made sufficiently tame to sing. The upper parts of the cage (which ought to be of wood) should be kept covered, until the bird becomes a little more reconciled to confinement. If placed in a wire cage, uncovered, he will soon destroy himself in attempting to get out. These birds, however, by proper treatment, may be brought to sing perhaps superior to those raised by hand, and cost less trouble. The opinion which the naturalists of Europe entertain of the great difficulty of raising the *mocking bird*, and, that not one in ten survives, is very incorrect. A person called on me a few days ago, with twenty-nine of these birds, old and young, which he had carried about the fields with him for several days, for the convenience of feeding them while engaged in trapping others. He had carried them thirty miles, and intended carrying them ninety-six miles farther, viz. to New York; and told me, that he did not expect to lose one out of ten of them. Cleanliness, and regularity in feeding, are the two principal things to be attended to; and these rarely fail to succeed.

The eagerness with which the nest of the *mocking bird* is sought after in the neighbourhood of Philadelphia, has rendered this bird extremely scarce for an extent of several miles round the city. In the country round Wilmington and Newcastle, they are very numerous, from whence they are frequently brought here for

* The observations of Mr Barrington, in the paper above referred to, make this supposition still more probable. "Some nightingales," says he, "are so vastly inferior, that the bird-catchers will not keep them, branding them with the name of Frenchmen." p. 283.

sale. The usual price of a singing bird is from seven to fifteen, and even twenty dollars. I have known fifty dollars paid for a remarkable fine singer; and one instance where one hundred dollars were refused for a still more extraordinary one.

Attempts have been made to induce these charming birds to pair, and rear their young in a state of confinement, and the result has been such as to prove it, by proper management, perfectly practicable. In the spring of 1808, a Mr Klein, living in North Seventh Street, Philadelphia, partitioned off about twelve feet square in the third story of his house. This was lighted by a pretty large wire-grated window. In the centre of this small room he planted a cedar bush, five or six feet high, in a box of earth, and scattered about a sufficient quantity of materials suitable for building. Into this place a male and female mocking bird were put, and soon began to build. The female laid five eggs, all of which she hatched, and fed the young with great affection until they were nearly able to fly. Business calling the proprietor from home for two weeks, he left the birds to the care of his domestics; and, on his return, found, to his great regret, that they had been neglected in food. The young ones were all dead, and the parents themselves nearly famished. The same pair have again commenced building this season, in the same place, and have at this time, July 4, 1809, three young, likely to do well. The place might be fitted up with various kinds of shrubbery, so as to resemble their native thickets; and ought to be as remote from noise and interruption of company as possible, and strangers rarely allowed to disturb, or even approach them.

The mocking bird is nine and a half inches long, and thirteen in breadth. Some individuals are, however, larger, and some smaller, those of the first hatch being uniformly the biggest and stoutest.* The upper parts

* Many people are of opinion that there are two sorts, the large and the small mocking bird; but, after examining great numbers of these birds in various regions of the United States, I am satisfied that this variation of size is merely accidental, or owing to the circumstance above mentioned. ••

of the head, neck, and back, are a dark, brownish ash, and when new moulted, a fine light gray; the wings and tail are nearly black, the first and second rows of coverts tipped with white; the primary coverts, in some males, are wholly white, in others, tinged with brown. The three first primaries are white from their roots as far as their coverts; the white on the next six extends from an inch to one and three-fourths farther down, descending equally on both sides of the feather; the tail is cuneiform, the two exterior feathers wholly white, the rest, except the middle ones, tipped with white; the chin is white; sides of the neck, breast, belly, and vent, a brownish white, much purer in wild birds than in those that have been domesticated; iris of the eye, yellowish cream coloured, inclining to golden; bill, black, the base of the lower mandible, whitish; legs and feet, black, and strong. The female very much resembles the male; what difference there is, has been already pointed out in a preceding part of this account. The breast of the young bird is spotted like that of the thrush.

Mr William Bartram observes of the mocking bird, that "formerly, say thirty or forty years ago, they were numerous, and often staid all winter with us, or the year through, feeding on the berries of ivy, smilax, grapes, persimmons, and other berries. The ivy (*hedera helix*) they were particularly fond of, though a native of Europe. We have an ancient plant adhering to the wall of the house, covering many yards of surface; this vine is very fruitful, and here many would feed and lodge during the winter, and, in very severe cold weather, sit on the top of the chimney to warm themselves." He also adds, "I have observed that the mocking bird ejects from his stomach through his mouth the hard kernels of berries, such as smilax, grapes, &c. retaining the pulpy part."*

* Letter from Mr Bartram to the author.

90. *TURDUS LIVIDUS*, WILSON. — *T. FELIFOX*, VIEILL.

CAT BIRD.

WILSON, PLATE XIV. FIG. III.

WE have here a very common and very numerous species, in this part of the United States; and one as well known to all classes of people, as his favourite briers, or blackberry bushes. In spring or summer, on approaching thickets of brambles, the first salutation you receive is from the cat bird; and a stranger, unacquainted with its note, would instantly conclude that some vagrant orphan kitten had got bewildered among the briers, and wanted assistance; so exactly does the call of the bird resemble the voice of that animal. Unsuspicious, and extremely familiar, he seems less apprehensive of man than almost any other of our summer visitants; for whether in the woods, or in the garden, where he frequently builds his nest, he seldom allows you to pass without approaching to pay his respects, in his usual way. This humble familiarity and deference, from a stranger, too, who comes to rear his young, and spend the summer with us, ought to entitle him to a full share of our hospitality. Sorry I am, however, to say, that this, in too many instances, is cruelly the reverse. Of this I will speak more particularly in the sequel.

About the 28th of February, the cat bird first arrives in the lower parts of Georgia from the south, consequently winters not far distant, probably in Florida. On the second week in April, he usually reaches this part of Pennsylvania; and about the beginning of May, has already succeeded in building his nest. The place chosen for this purpose is generally a thicket of briers or brambles, a thorn bush, thick vine, or the fork of a small sapling; no great solicitude is shewn for concealment, though few birds appear more interested for the safety of their nest and young. The materials are dry

leaves and weeds, small twigs, and fine dry grass; the inside is lined with the fine black fibrous roots of some plant. The female lays four, sometimes five eggs, of a uniform greenish blue colour, without any spots. They generally raise two, and sometimes three brood in a season.

In passing through the woods in summer, I have sometimes amused myself with imitating the violent chirping or squeaking of young birds, in order to observe what different species were around me,—for such sounds, at such a season, in the woods, are no less alarming to the feathered tenants of the bushes, than the cry of fire or murder in the streets is to the inhabitants of a large and populous city. On such occasions of alarm and consternation, the cat bird is the first to make his appearance, not singly, but sometimes half a dozen at a time, flying from different quarters to the spot. At this time, those who are disposed to play with his feelings may almost throw him into fits, his emotion and agitation are so great, at the distressful cries of what he supposes to be his suffering young. Other birds are variously affected; but none shew symptoms of such extreme suffering. He hurries backwards and forwards, with hanging wings and open mouth, calling out louder and faster, and actually screaming with distress, till he appears hoarse with his exertions. He attempts no offensive means; but he bewails—he implores—in the most pathetic terms with which nature has supplied him, and with an agony of feeling which is truly affecting. Every feathered neighbour within hearing hastens to the place, to learn the cause of the alarm, peeping about with looks of consternation and sympathy. But their own powerful parental duties and domestic concerns soon oblige each to withdraw. At any other season, the most perfect imitations have no effect whatever on him.

The cat bird will not easily desert its nest. I took two eggs from one which was sitting, and in their place put two of the brown thrush, or thrasher, and took my stand at a convenient distance to see how she would

behave. In a minute or two, the male made his approaches, stooped down, and looked earnestly at the strange eggs, then flew off to his mate, who was not far distant, with whom he seemed to have some conversation, and instantly returning, with the greatest gentleness took out both the thrasher's eggs, first one and then the other, carried them singly about thirty yards, and dropt them among the bushes. I then returned the two eggs I had taken, and, soon after, the female resumed her place on the nest as before.

From the nest of another cat bird I took two half fledged young, and placed them in that of another, which was sitting on five eggs. She soon turned them both out. The place where the nest was not being far from the ground, they were little injured, and the male, observing their helpless situation, began to feed them with great assiduity and tenderness.

I removed the nest of a cat bird, which contained four eggs, nearly hatched, from a fox grape vine, and fixed it firmly and carefully in a thicket of briars close by, without injuring its contents. In less than half an hour I returned, and found it again occupied by the female.

The cat bird is one of our earliest morning songsters, beginning generally before break of day, and hovering from bush to bush, with great sprightliness, when there is scarce light sufficient to distinguish him. His notes are more remarkable for singularity than for melody. They consist of short imitations of other birds, and other sounds; but, his pipe being rather deficient in clearness and strength of tone, his imitations fail where these are requisite. Yet he is not easily discouraged, but seems to study certain passages with great perseverance; uttering them at first low, and, as he succeeds, higher and more free, nowise embarrassed by the presence of a spectator even within a few yards of him. On attentively listening for some time to him, one can perceive considerable variety in his performance, in which he seems to introduce all the odd sounds and quaint passages he has been able to collect. Upon the

whole, though we cannot arrange him with the grand leaders of our vernal choristers, he well merits a place among the most agreeable *general* performers.

This bird, as has been before observed, is very numerous in summer, in the middle States. Scarcely a thicket in the country is without its cat birds; and, were they to fly in flocks, like many other birds, they would darken the air with their numbers. But their migrations are seldom observed, owing to their gradual progress and recession, in spring and autumn, to and from their breeding places. They enter Georgia late in February, and reach New England about the beginning of May. In their migrations, they keep pace with the progress of agriculture; and the first settlers in many parts of the Genesee country, have told me, that it was several years, after they removed there, before the cat bird made his appearance among them. With all these amiable qualities to recommend him, few people in the country respect the cat bird; on the contrary, it is generally the object of dislike; and the boys of the United States entertain the same prejudice and contempt for this bird, its nest and young, as those of Britain do for the yellowhammer, and its nest, eggs, and young. I am at a loss to account for this cruel prejudice. Even those by whom it is entertained, can scarcely tell you why; only they "hate cat birds;" as some persons tell you they hate Frenchmen, they hate Dutchmen, &c; expressions that bespeak their own narrowness of understanding, and want of liberality. Yet, after ruminating over in my own mind all the probable causes, I think I have at last hit on some of them; the principal of which seems to me to be a certain similarity of taste, and clashing of interest, between the cat bird and the farmer. The cat bird is fond of large ripe garden strawberries; so is the farmer, for the good price they bring in market: the cat bird loves the best and richest early cherries; so does the farmer, for they are sometimes the most profitable of his early fruit: the cat bird has a particular partiality for the finest ripe mellow pears; and these are also

particular favourites with the farmer. But the cat bird has frequently the advantage of the farmer, by snatching off the first fruits of these delicious productions; and the farmer takes revenge, by shooting him down with his gun, as he finds old hats, windmills, and scarecrows, are no impediment in his way to these forbidden fruits; and nothing but this resource—the ultimatum of farmers as well as kings—can restrain his visits. The boys are now set to watch the cherry trees with the gun; and thus commences a train of prejudices and antipathies, that commonly continue through life. Perhaps, too, the common note of the cat bird, so like the mewling of the animal whose name it bears, and who itself sustains no small share of prejudice, the homeliness of his plumage, and even his familiarity, so proverbially known to beget contempt, may also contribute to this mean, illiberal, and persecuting prejudice; but, with the generous and the good, the lovers of nature and of rural charms, the confidence which this familiar bird places in man by building in his garden, under his eye, the music of his song, and the interesting playfulness of his manners, will always be more than a recompense for all the little stolen morsels he snatches.

The cat bird measures nine inches in length; at a small distance he appears nearly black; but, on a closer examination, is of a deep slate colour above, lightest on the edges of the primaries, and of a considerably lighter slate colour below, except the under tail-coverts, which are very dark red; the tail, which is rounded, and upper part of the head, as well as the legs and bill, are black. The female differs little in colour from the male. Latham takes notice of a bird exactly resembling this, being found at Kamtschatka, only it wanted the red under the tail; probably it might have been a young bird, in which the red is scarcely observable.

This bird has been very improperly classed among the flycatchers. As he never seizes his prey on wing, has none of their manners, feeds principally on fruit, and seems to differ so little from the thrushes, I think he more properly belongs to the latter tribe, than to

any other genus we have. His bill, legs and feet, place, and mode of building, the colour of the eggs, his imitative notes, food, and general manners, all justify me in removing him to this genus.

The cat bird is one of those unfortunate victims, and indeed the principal, against which credulity and ignorance have so often directed the fascinating quality of the black snake. A multitude of marvellous stories have been told me by people who have themselves seen the poor cat birds drawn, or sucked, as they sometimes express it, from the tops of the trees (which, by the bye, the cat bird rarely visits,) one by one, into the yawning mouth of the immovable snake. It has so happened with me, that, in all the adventures of this kind that I have personally witnessed, the cat bird was actually the assailant, and always the successful one. These rencounters never take place but during the breeding time of birds; for whose eggs and young the snake has a particular partiality. It is no wonder that those species, whose nests are usually built near the ground, should be the greatest sufferers, and the most solicitous for their safety: hence the cause why the cat bird makes such a distinguished figure in most of these marvellous narrations. That a poisonous snake will strike a bird or mouse, and allow it to remain till nearly expiring before he begins to devour it, our observations on the living rattlesnake, at present [1811,] kept by Mr Peale, satisfy us is a fact; but that the same snake, with eyes, breath, or any other known quality he possesses, should be capable of drawing a bird, reluctantly, from the tree tops to its mouth, is an absurdity too great for me to swallow.

I am led to these observations by a note which I received this morning from my worthy friend Mr Bartram: "Yesterday," says this gentleman, "I observed a conflict, or contest, between a cat bird and a snake. It took place in a gravel walk, in the garden, near a dry wall of stone. I was within a few yards of the combatants. The bird pounced or darted upon the

snake, snapping his bill ; the snake would then draw himself quickly into a coil, ready for a blow ; but the bird would cautiously circumvent him at a little distance, now and then running up to, and snapping at him ; but keeping at a sufficient distance to avoid a blow. After some minutes, it became a running fight, the snake retreating ; and, at last, he took shelter in the wall. The cat bird had young ones in the bushes near the field of battle.

“ This may shew the possibility of poisonous snakes biting birds ; the operation of the poison causing them to become, as it were, fascinated.”

91. *TURDUS MELODUS*, WILSON. — *T. MUSTELINUS*, GMELIN.

WOOD THRUSH.

WILSON, PLATE II. FIG. I.

THIS bird measures eight inches in length, and thirteen from tip to tip of the expanded wings ; the bill is an inch long, the upper mandible, of a dusky brown, bent at the point, and slightly notched ; the lower, a flesh colour towards the base ; the legs are long, and, as well as the claws, of a pale flesh colour, or almost transparent. The whole upper parts are of a brown fulvous colour, brightening into reddish on the head, and inclining to an olive on the rump and tail ; chin, white ; throat and breast, white, tinged with a light buff colour, and beautifully marked with pointed spots of black or dusky, running in chains from the sides of the mouth, and intersecting each other all over the breast to the belly, which, with the vent, is of a pure white ; a narrow circle of white surrounds the eye, which is large, full, the pupil black, and the iris of a dark chocolate colour ; the inside of the mouth is yellow. The male and female of this species, as, indeed, of almost the whole genus of thrushes, differ so little as scarcely to be distinguished from each other. It is called by some the wood robin, by others the ground

robin, and by ornithologists, in general, the little thrush, though we have several thrushes larger, and a number smaller. *Turdus minor* appears, therefore, not altogether a suitable appellation: the present name has been adopted from Mr William Bartram, who seems to have been the first and almost only naturalist who has taken notice of the merits of this bird.

This sweet and solitary songster inhabits the whole of North America, from Hudson's Bay to the peninsula of Florida. He arrives in Pennsylvania about the 20th of April, or soon after, and returns to the south about the beginning of October. The lateness or earliness of the season seems to make less difference in the times of arrival of our birds of passage than is generally imagined. Early in April the woods are often in considerable forwardness, and scarce a summer bird to be seen. On the other hand, vegetation is sometimes no farther advanced on the 20th of April, at which time (*e. g.* this present year, 1807) numbers of wood thrushes are seen flitting through the moist woody hollows; and a variety of the *motacilla* genus chattering from almost every bush, with scarce an expanded leaf to conceal them. But at whatever time the wood thrush may arrive, he soon announces his presence in the woods. With the dawn of the succeeding morning, mounting to the top of some tall tree that rises from a low thick shaded part of the woods, he pipes his few, but clear and musical notes, in a kind of ecstasy; the prelude, or symphony to which, strongly resembles the double-tonguing of a German flute, and sometimes the tinkling of a small bell; the whole song consists of five or six parts, the last note of each of which is in such a tone as to leave the conclusion evidently suspended; the finale is finely managed, and with such charming effect as to soothe and tranquillize the mind, and to seem sweeter and mellowed at each successive repetition. Rival songsters, of the same species, challenge each other from different parts of the wood, seeming to vie for softer tones and more exquisite responses. During the burning heat of the day, they are comparatively mute;

but in the evening the same melody is renewed, and continued long after sunset. Those who visit our woods, or ride out into the country at these hours, during the months of May and June, will be at no loss to recognize, from the above description, this pleasing musician. Even in dark, wet, and gloomy weather, when scarce a single chirp is heard from any other bird, the clear notes of the wood thrush thrill through the dropping woods, from morning to night; and it may truly be said, that the sadder the day the sweeter is his song.

The favourite haunts of the wood thrush are low, thick shaded hollows, through which a small brook or rill meanders, overhung with alder bushes, that are mantled with wild vines. Near such a scene he generally builds his nest, in a laurel or alder bush. Outwardly it is composed of withered beech leaves of the preceding year, laid at bottom in considerable quantities, no doubt to prevent damp and moisture from ascending through, being generally built in low, wet situations; above these are layers of knotty stalks of withered grass, mixed with mud, and smoothly plastered, above which is laid a slight lining of fine black fibrous roots of plants. The eggs are four, sometimes five, of a uniform light blue, without any spots.

The wood thrush appears always singly or in pairs, and is of a shy, retired, unobtrusive disposition. With the modesty of true merit, he charms you with his song, but is content, and even solicitous, to be concealed. He delights to trace the irregular windings of the brook, where, by the luxuriance of foliage, the sun is completely shut out, or only plays in a few interrupted beams on the glittering surface of the water. He is also fond of a particular species of lichen which grows in such situations, and which, towards the fall, I have uniformly found in their stomachs; berries, however, of various kinds, are his principal food, as well as beetles and caterpillars. The feathers on the hind head are longer than is usual with birds which have no crest; these he sometimes erects; but this

particular cannot be observed but on a close examination.

- Those who have paid minute attention to the singing of birds, know well, that the voice, energy, and expression, in the same tribe, differ as widely as the voices of different individuals of the human species, or as one singer does from another. The powers of song, in some individuals of the wood thrush, have often surprised and delighted me. Of these I remember one, many years ago, whose notes I could instantly recognise on entering the woods, and with whom I had been, as it were, acquainted from his first arrival. The top of a large white oak that overhung part of the glen, was usually the favourite pinnacle from whence he poured the sweetest melody; to which I had frequently listened till night began to gather in the woods, and the fire-flies to sparkle among the branches. But, alas! in the pathetic language of the poet—

One morn I miss'd him on the accustom'd hill,
Along the vale, and on his favourite tree—
Another came, nor yet beside the rill,
Nor up the glen, nor in the wood was he.

A few days afterwards, passing along the edge of the rocks, I found fragments of the wings and broken feathers of a wood thrush killed by the hawk, which I contemplated with unfeigned regret, and not without a determination to retaliate on the first of these murderers I could meet with.

That I may not seem singular in my estimation of this bird, I shall subjoin an extract of a letter from a distinguished American gentleman to whom I had sent some drawings, and whose name, were I at liberty to give it, would do honour to my humble performance, and render any farther observations on the subject from me unnecessary.

“As you are curious in birds, there is one well worthy your attention, to be found, or rather heard, in every part of America, and yet scarcely ever to be seen. It is in all the forests from spring to fall, and never but on the tops of the tallest trees, from which it

perpetually serenades us with some of the sweetest notes, and as clear as those of the nightingale. I have followed it for miles, without ever but once getting a good view of it. It is of the size and make of the mocking bird, lightly thrush coloured on the back, and a greyish white on the breast and belly. Mr ———, my son-in-law, was in possession of one, which had been shot by a neighbour; he pronounced it a *muscicapa*, and I think it much resembles the *Mouche rolle de la Martinique*, 8 Buffon, 374, *pl. enlum.* 568. As it abounds in all the neighbourhood of Philadelphia, you may, perhaps, by patience and perseverance, (of which much will be requisite,) get a sight, if not a possession, of it. I have, for twenty years, interested the young sportsmen of my neighbourhood to shoot me one, but, as yet, without success."

It may seem strange that neither Sloane,* Catesby, Edwards, nor Buffon, all of whom are said to have described this bird, should say any thing of its melody; or rather, assert that it had only a single cry or scream. This I cannot account for in any other way than by supposing, what I think highly probable, that this bird has never been figured or described by any of the above authors.

Catesby has, indeed, represented a bird, which he calls *turdus minimus*,† but it is difficult to discover, either from the figure or description, what particular species is meant; or whether it be really intended for the wood thrush we are now describing. It resembles, he says, the English thrush; but is less, never sings, has only a single note, and abides all the year in Carolina. It must be confessed, that, except the first circumstance, there are few features of the wood thrush in this description. Though it is believed that some of our birds of passage, and, among them, the present species, winter in the Carolinas, yet they rarely breed there; and when they do, they are certainly vocal. If Mr Catesby, therefore, found the bird mute during spring and summer, it was not the wood thrush, other-

* *Hist. Jam.* ii, 305.

† CATESBY'S *Nat. Hist. Car.* i, 31.

wise he must have changed his very nature. But Mr Edwards has also described and delineated the little thrush,* and has referred to Catesby as having drawn and engraved it before. Now this thrush of Edwards I know to be really a different species; one not resident in Pennsylvania, but passing to the north in May, and returning the same way in October, and may be distinguished from the true song thrush (*turdus melodus*) by the spots being much broader, and not descending so far below the breast. It is also an inch shorter, with the cheeks of a bright tawny colour. Mr William Bartram, who transmitted this bird, more than fifty years ago, to Mr Edwards, by whom it was drawn and engraved, examined the two species in my presence; and on comparing them with the one in Edwards, was satisfied that the bird there figured and described is not the wood thrush, (*turdus melodus*,) but the tawny cheeked kind above mentioned. This species I have never seen in Pennsylvania but in spring and fall. It is still more solitary than the former; utters, at rare times, a single cry, similar to that of a chicken which has lost its mother; and is, probably, the same bird which is described by Sloane and Catesby.

As the Count de Buffon has drawn his description from those above mentioned, the same observations apply equally to what he has said on the subject; and the beautiful little theory which this writer had formed to account for its want of song, vanishes into empty air; viz. that the song thrush of Europe (*turdus musicus*) had, at some time after the creation, rambled round by the northern ocean, and made its way to America; that, advancing to the south, it had there (of consequence) become degenerated by change of food and climate, so that its cry is now harsh and unpleasant, "as are the cries of all birds that live in wild countries inhabited by savages."†

* EDWARDS, 296.

† BUFFON, vol. iii, 289. The figure in pl. enl. 398, has little or no resemblance to the wood thrush, being of a deep green olive above, and spotted to the tail below with long streaks of brown.

92. *TURDUS MIGRATORIUS*, LINNÆUS AND WILSON. — THE ROBIN.

WILSON, PLATE II. FIG. II.

THIS well known bird, being familiar to almost every body, will require but a short description. It measures nine inches and a half in length; the bill is strong, an inch long, and of a full yellow, though sometimes black or dusky near the tip of the upper mandible; the head back of the neck, and tail, is black; the back and rump an ash colour; the wings are black, edged with light ash; the inner tips of the two exterior tail feathers are white; three small spots of white border the eye the throat and upper part of the breast is black, the former streaked with white; the whole of the rest of the breast, down as far as the thighs, is of a dark orange; belly and vent, white, slightly waved with dusky ash; legs, dark brown; claws, black and strong. The name of this bird bespeaks him a bird of passage as are all the different species of thrushes we have but the one we are now describing being more unsettled and continually roving about from one region to another during fall and winter, seems particularly entitled to the appellation. Scarce a winter passes but innumerable thousands of them are seen in the lower part of the whole Atlantic States, from New Hampshire to Carolina, particularly in the neighbourhood of our towns; and, from the circumstance of their leaving during that season, the country to the northwest of the great range of the Alleghany, from Maryland northward, it would appear, that they not only migrate from north to south, but from west to east, to avoid the deep snows that generally prevail on these high regions for at least four months in the year.

The robin builds his nest, often on an apple tree plasters it in the inside with mud, and lays five eggs of a beautiful sea green. The colours of the female are more of the light ash, less deepened with black; and the orange on the breast is much paler, and more broad;

skirted with white. Their principal food is berries, worms, and caterpillars. Of the first he prefers those of the sour gum (*nyssa sylvatica*.) So fond are they of gum-berries, that wherever there is one of these trees covered with fruit, and flocks of robins in the neighbourhood, the sportsman need only take his stand near it, load, take aim, and fire; one flock succeeding another, with little interruption, almost the whole day; by this method prodigious slaughter has been made among them with little fatigue. When berries fail, they disperse themselves over the fields, and along the fences, in search of worms and other insects. Sometimes they will disappear for a week or two, and return again in greater numbers than before; at which time the cities pour out their sportsmen by scores, and the markets are plentifully supplied with them at a cheap rate. In January, 1807, two young men, in one excursion after them, shot thirty dozen. In the midst of such devastation, which continued many weeks, and, by accounts, extended from Massachusetts to Maryland, some humane person took advantage of a circumstance common to these birds in winter, to stop the general slaughter. The fruit called poke-berries (*phytolacca decandria*, Linn.) is a favourite repast with the robin, after they are mellowed by the frost. The juice of the berries is of a beautiful crimson, and they are eaten in such quantities by these birds, that their whole stomachs are strongly tinged with the same red colour. A paragraph appeared in the public papers, intimating, that from the great quantities of these berries which the robins had fed on, they had become unwholesome, and even dangerous food; and that several persons had suffered by eating of them. The strange appearance of the bowels of the birds seemed to corroborate this account. The demand for, and use of them, ceased almost instantly; and motives of self-preservation produced at once what all the pleadings of humanity could not effect.* When

* Governor Drayton, in his *View of South Carolina*, p. 86, observes, that "the robins in winter devour the berries of the

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fat, they are in considerable esteem for the table, and probably not inferior to the *turdi* of the ancients, which they bestowed so much pains on in feeding and fattening. The young birds are frequently and easily raised, bear the confinement of the cage, feed on bread, fruits, &c. sing well, readily learn to imitate parts of tunes, and are very pleasant and cheerful domestics. In these I have always observed that the orange on the breast is of a much deeper tint, often a dark mahogany or chestnut colour, owing, no doubt, to their food and confinement.

The robin is one of our earliest songsters; even in March, while snow yet dapples the fields, and flocks of them are dispersed about; some few will mount a post or stake of the fence, and make short and frequent attempts at their song. Early in April, they are only to be seen in pairs, and deliver their notes with great earnestness, from the top of some tree detached from the woods. This song has some resemblance to, and indeed is no bad imitation of, the notes of the thrush or thrasher (*turdus rufus*); but, if deficient in point of execution, he possesses more simplicity, and makes up in zeal what he wants in talent; so that the notes of the robin, in spring, are universally known, and as universally beloved. They are, as it were, the prelude to the grand general concert that is about to burst upon us from woods, fields, and thickets, whitened with blossoms, and breathing fragrance. By the usual association of ideas, we therefore listen with more pleasure to this cheerful bird, than to many others possessed of far superior powers, and much greater variety. Even his nest is held more sacred among schoolboys than that of some others; and, while they will exult in plundering a jay's or a cat bird's, a general sentiment of respect prevails on the discovery of a robin's. Whether he owes not some little of this veneration to the well

bead tree (*melia azaderach*) in such large quantities, that, after eating of them, they are observed to fall down, and are readily taken. This is ascribed more to distension from abundant eating than from any deleterious qualities of the plant."

known and long established character of his namesake in Britain, by a like association of ideas, I will not pretend to determine. He possesses a good deal of his suavity of manners; and almost always seeks shelter for his young in summer, and subsistence for himself in the extremes of winter, near the habitations of man.

The robin inhabits the whole of North America, from Hudson's Bay to Nootka Sound, and as far south as Georgia, though they rarely breed on this side the mountains farther south than Virginia. Mr Forster says, that about the beginning of May they make their appearance in pairs at the settlements of Hudson's Bay, at Severn river; and what is very remarkable, if correct, that, at Moose Fort, they build, lay, and hatch, in fourteen days! But that at the former place, four degrees more north, they are said to take twenty-six days. *Phil. Trans.* lxii, 399. They are also common in Newfoundland, quitting these northern parts in October. The young, during the first season, are spotted with white on the breast, and, at that time, have a good deal of resemblance to the fieldfare of Europe.

Mr Hearne informs us, that the red-breasted thrushes are commonly called, at Hudson's Bay, the red birds; by some, the blackbirds, on account of their note; and by others, the American fieldfares,—that they make their appearance at Churchill river about the middle of May, and migrate to the south early in the fall. They are seldom seen there but in pairs; and are never killed for their flesh, except by the Indian boys.*

Several authors have asserted, that the red-breasted thrush cannot brook the confinement of the cage, and never sings in that state. But, except the mocking bird, (*turdus polyglottus*,) I know of no native bird which is so frequently domesticated, agrees better with confinement, or sings in that state more agreeably than the robin. They generally suffer severely in moulting time; yet often live to a considerable age. A lady, who

* *Journey to the Northern Ocean*, p. 418, quarto. Lond. 1795.

resides near Tarrytown, on the banks of the Hudson, informed me, that she raised and kept one of these birds for seventeen years; which sung as well, and looked as sprightly, at that age as ever; but was at last unfortunately destroyed by a cat. The morning is their favourite time for song. In passing through the streets of our large cities, on Sunday, in the months of April and May, a little after daybreak, the general silence which usually prevails without at that hour, will enable you to distinguish every house where one of these songsters resides, as he makes it then ring with his music.

Not only the plumage of the robin, as of many other birds, is subject to slight periodical changes of colour, but even the legs, feet, and bill; the latter, in the male, being frequently found tipt and ridged for half its length with black. In the depth of winter their plumage is generally best; at which time the full grown bird appears in his most perfect dress.

93. *TURDUS RUFUS*, LINNÆUS AND WILSON.

FERRUGINOUS THRUSH.

WILSON, PLATE XIV. FIG. I.

THIS is the brown thrush, or thrasher of the middle and eastern States; and the French mocking bird* of Maryland, Virginia, and the Carolinas. It is the largest of all our thrushes, and is a well known and very distinguished songster. About the middle, or 20th of April, or generally about the time the cherry trees begin to blossom, he arrives in Pennsylvania; and from the tops of our hedgerows, sassafras, apple or cherry trees, he salutes the opening morning with his charming song, which is loud, emphatical, and full of variety. At that serene hour, you may plainly distinguish his voice full half a mile off. These notes are not imitative, as

* See article *Mocking Bird*, for the supposed origin of this name.

his name would import, and as some people believe, but seem solely his own ; and have considerable resemblance to the notes of the song thrush (*turdus musicus*) of Britain. Early in May he builds his nest, choosing a thorn bush, low cedar, thicket of briers, dogwood sapling, or cluster of vines, for its situation; generally within a few feet of the ground. Outwardly, it is constructed of small sticks; then layers of dry leaves, and, lastly, lined with fine fibrous roots; but without any plaster. The eggs are five, thickly sprinkled with ferruginous grains, on a very pale bluish ground. They generally have two brood in a season. Like all birds that build near the ground, he shews great anxiety for the safety of his nest and young, and often attacks the black snake in their defence; generally, too, with success, his strength being greater, and his bill stronger and more powerful, than any other of his tribe within the United States. His food consists of worms, which he scratches from the ground, caterpillars, and many kinds of berries. Beetles, and the whole race of coleopterous insects, wherever he can meet with them, are sure to suffer. He is accused, by some people, of scratching up the hills of Indian corn, in planting time; this may be partly true; but, for every grain of maize he pilfers, I am persuaded, he destroys five hundred insects; particularly a large dirty-coloured grub, with a black head, which is more pernicious to the corn, and other grain and vegetables, than nine-tenths of the whole feathered race. He is an active vigorous bird, flies generally low, from one thicket to another, with his long broad tail spread like a fan; is often seen about brier and bramble bushes, along fences; and has a single note or chuck, when you approach his nest. In Pennsylvania, they are numerous, but never fly in flocks. About the middle of September, or as soon as they have well recovered from moulting, in which they suffer severely, they disappear for the season. In passing through the southern parts of Virginia, and south as far as Georgia, in the depth of winter, I found them lingering in sheltered situations, particularly on the

border of swamps and rivers. On the first of March, they were in full song round the commons at Savannah, as if straining to outstrip the mocking bird, that prince of feathered musicians.

The thrasher is a welcome visitant in spring, to every lover of rural scenery and rural song. In the months of April and May, when our woods, hedgerows, orchards, and cherry trees, are one profusion of blossoms, when every object around conveys the sweet sensation of joy, and heaven's abundance is, as it were, showering around us, the grateful heart beats in unison with the varying elevated strains of this excellent bird; we listen to its notes with a kind of devotional ecstasy, as a morning hymn to the great and most adorable Creator of all. The human being who, amidst such scenes, and in such seasons of rural serenity and delight, can pass them with cold indifference, and even contempt, I sincerely pity; for abject must that heart be, and callous those feelings, and depraved that taste, which neither the charms of nature, nor the melody of innocence, nor the voice of gratitude or devotion can reach.

This bird inhabits North America, from Canada to the point of Florida. They are easily reared, and become very familiar when kept in cages; and though this is rarely done, yet I have known a few instances where they sung in confinement with as much energy as in their native woods. They ought frequently to have earth and gravel thrown in to them, and have plenty of water to bathe in.

The ferruginous thrush is eleven inches and a half long, and thirteen in extent; the whole upper parts are of a bright reddish brown; wings, crossed with two bars of white, relieved with black; tips and inner vanes of the wings, dusky; tail, very long, rounded at the end, broad, and of the same reddish brown as the back; whole lower parts, yellowish white; the breast, and sides under the wings, beautifully marked with long pointed spots of black, running in chains; chin, white; bill, very long and stout, not notched, the upper mandible overhanging the lower a little, and

beset with strong bristles at the base, black above, and whitish below, near the base; legs, remarkably strong, and of a dusky clay colour; iris of the eye, brilliant yellow. The female may be distinguished from the male by the white on the wing being much narrower, and the spots on the breast less. In other respects, their plumage is nearly alike.

Concerning the sagacity and reasoning faculty of this bird, my venerable friend Mr Bartram writes me as follows:—"I remember to have reared one of these birds from the nest; which, when full grown, became very tame and docile. I frequently let him out of his cage to give him a taste of liberty; after fluttering and dusting himself in dry sand and earth, and bathing, washing, and dressing himself, he would proceed to hunt insects, such as beetles, crickets, and other shelly tribes; but, being very fond of wasps, after catching them, and knocking them about to break their wings, he would lay them down, then examine if they had a sting, and, with his bill, squeeze the abdomen to clear it of the reservoir of poison, before he would swallow his prey. When in his cage, being very fond of dry crusts of bread, if, upon trial, the corners of the crumbs were too hard and sharp for his throat, he would throw them up, carry, and put them in his water dish to soften; then take them out and swallow them. Many other remarkable circumstances might be mentioned that would fully demonstrate faculties of *mind*; not only innate, but acquired ideas, (derived from necessity in a state of domestication,) which we call understanding and knowledge. We see that this bird could associate those ideas, arrange and apply them in a rational manner, according to circumstances. For instance, if he knew that it was the hard sharp corners of the crumb of bread that hurt his gullet, and prevented him from swallowing it, and that water would soften, and render it easy to be swallowed, this knowledge must be acquired by observation and experience; or some other bird taught him. Here the bird perceived, by the effect, the cause, and then took the quickest, the

most effectual, and agreeable method to remove that cause. What could the wisest man have done better? Call it reason, or instinct, it is the same that a sensible man would have done in this case.

"After the same manner this bird reasoned with respect to the wasps. He found, by experience and observation, that the first he attempted to swallow hurt his throat, and gave him extreme pain; and, upon examination, observed that the extremity of the abdomen was armed with a poisonous sting; and, after this discovery, never attempted to swallow a wasp until he first pinched his abdomen to the extremity, forcing out the sting, with the receptacle of poison."

It is certainly a circumstance highly honourable to the character of birds, and corroborative of the foregoing sentiments, that those who have paid the most minute attention to their manners, are uniformly their advocates and admirers. "He must," said a gentleman to me the other day, when speaking of another person,—"He must be a good man; for those who have long known him, and are most intimate with him, respect him greatly, and always speak well of him."

94. *TURDUS SOLITARIUS*, WILSON. — *TURDUS MINOR*, GMELIN.

HERMIT THRUSH.

WILSON, PLATE XLIII. FIG. II.

THE dark solitary cane and myrtle swamps of the southern States are the favourite native haunts of this silent and recluse species; and the more deep and gloomy these are, the more certain we are to meet with this bird flitting among them. This is the species mentioned, while treating of the wood thrush, as having been figured and described, more than fifty years ago, by Edwards, from a dried specimen sent him by my friend Mr William Bartram, under the supposition that it was the wood thrush, (*turdus melodus*.) It is, however, considerably less, very differently marked, and

altogether destitute of the clear voice and musical powers of that charming minstrel. It also differs, in remaining in the southern States during the whole year; whereas the wood thrush does not winter even in Georgia; nor arrives within the southern boundary of that State until some time in April.

The hermit thrush is rarely seen in Pennsylvania, unless for a few weeks in spring, and late in the fall, long after the wood thrush has left us, and when scarcely a summer bird remains in the woods. In both seasons it is mute, having only, in spring, an occasional squeak, like that of a young stray chicken. Along the Atlantic coast, in New Jersey, they remain longer and later, as I have observed them there late in November. In the cane swamps of the Chactaw nation, they were frequent in the month of May, on the 12th of which I examined one of their nests on a horizontal branch, immediately over the path. The female was sitting, and left it with great reluctance, so that I had nearly laid my hand on her before she flew. The nest was fixed on the upper part of the body of the branch, and constructed with great neatness; but without mud or plaster, contrary to the custom of the wood thrush. The outside was composed of a considerable quantity of coarse rooty grass, intermixed with horse hair, and lined with a fine, green coloured, thread-like grass, perfectly dry, laid circularly, with particular neatness. The eggs were four, of a pale greenish blue, marked with specks and blotches of olive, particularly at the great end. I also observed this bird on the banks of the Cumberland river in April. Its food consists chiefly of berries, of which these low swamps furnish a perpetual abundance, such as those of the holly, myrtle, gall bush, (a species of *vaccinium*,) yapon shrub, and many others.

A superficial observer would instantly pronounce this to be only a variety of the wood thrush; but, taking into consideration its difference of size, colour, manners, want of song, secluded habits, differently formed nest, and spotted eggs, all unlike those of the

former, with which it never associates, it is impossible not to conclude it to be a distinct and separate species, however near it may approach to that of the former. Its food, and the country it inhabits, for half the year, being the same, neither could have produced those differences; and we must believe it to be now, what it ever has, and ever will be, a distinct connecting link in the great chain of this part of animated nature; all the sublime reasoning of certain theoretical closet philosophers to the contrary notwithstanding.

Length of the hermit thrush, seven inches; extent, ten inches and a half; upper parts, plain deep olive brown; lower, dull white; upper part of the breast and throat, dull cream colour, deepest where the plumage falls over the shoulders of the wing, and marked with large dark brown pointed spots; ear, feathers, and line over the eye, cream, the former mottled with olive; edges of the wings, lighter, tips, dusky; tail coverts and tail, inclining to a reddish fox colour. In the wood thrush, these parts incline to greenish olive. Tail, slightly forked; legs, dusky; bill, black above and at the tip, whitish below; iris, black, and very full; chin, whitish.

The female differs very little,—chiefly in being generally darker in the tints, and having the spots on the breast larger and more dusky.

95. *TURDUS WILSONII*, BONAP. — *TURDUS MUSTELINUS*, WILS.

WILSON'S THRUSH. — TAWNY THRUSH.

WILSON, PLATE XLIII. FIG. III.

THIS species makes its appearance in Pennsylvania from the south, regularly about the beginning of May, stays with us a week or two, and passes on to the north and to the high mountainous districts to breed. It has no song, but a sharp chuck. About the 20th of May I met with numbers of them in the Great Pine swamp, near Pocano; and on the 25th of September, in the same year, I shot several of them in the neighbourhood of Mr Bartram's place. I have examined many of these

birds in spring, and also on their return in fall, and found very little difference among them between the male and female. In some specimens the wing-coverts were brownish yellow; these appeared to be young birds. I have no doubt but they breed in the northern high districts of the United States; but I have not yet been able to discover their nests.

The tawny thrush is ten inches long, and twelve inches in extent; the whole upper parts are a uniform tawny brown; the lower parts, white; sides of the breast, and under the wings, slightly tinged with ash; chin, white; throat, and upper parts of the breast, cream coloured, and marked with pointed spots of brown; lores, pale ash, or bluish white; cheeks, dusky brown; tail, nearly even at the end, the shafts of all, as well as those of the wing quills, continued a little beyond their webs; bill, black above and at the point, below at the base, flesh coloured; corners of the mouth, yellow; eye, large and dark, surrounded with a white ring; legs, long, slender, and pale brown.

Though I have given this bird the same name that Mr Pennant has applied to one of our thrushes, it must not be considered as the same; the bird which he has denominated the tawny thrush being evidently, from its size, markings, &c. the wood thrush, already described.

No description of this bird has, to my knowledge, appeared in any former publication.

GENUS XXI. — *SYLVIA*, LATHAM.

SUBGENUS I. — *SYLVIA*.

96. *SYLVIA AUROCAPILLA*, BONAPARTE. — *TURDUS AUROCAPILLUS*, WILSON.

GOLDEN-CROWNED THRUSH.

WILSON, PLATE XIV. FIG. II.

THOUGH the epithet golden-crowned is not very suitable for this bird, — that part of the head being rather of a brownish orange, — yet, to avoid confusion, I have retained it.

This is also a migratory species, arriving in Pennsylvania late in April, and leaving us again late in September. It is altogether an inhabitant of the woods, runs along the ground like a lark, and even along the horizontal branches, frequently moving its tail in the manner of the wagtails. It has no song; but a shrill, energetic twitter, formed by the rapid reiteration of two notes, *peche, peche, peche*, for a quarter of a minute at a time. It builds a snug, somewhat singular nest, on the ground, in the woods, generally on a declivity facing the south. This is formed of leaves and dry grass, and lined with hair. Though sunk below the surface, it is arched over, and only a small hole left for entrance; the eggs are four, sometimes five, white, irregularly spotted with reddish brown, chiefly near the great end. When alarmed, it escapes from the nest with great silence and rapidity, running along the ground like a mouse, as if afraid to tread too heavily on the leaves; if you stop to examine its nest, it also stops, droops its wings, flutters, and tumbles along, as if hardly able to crawl, looking back now and then to see whether you are taking notice of it. If you slowly follow, it leads you fifty or sixty yards off, in a direct line from its nest, seeming at every advance to be gaining fresh strength; and when it thinks it has decoyed you to a sufficient distance, it suddenly wheels off and disappears. This kind of deception is practised by many other species of birds that build on the ground; and is sometimes so adroitly performed as actually to have the desired effect of securing the safety of its nest and young.

This is one of those birds frequently selected by the cowpen bunting to be the foster parent of its young. In the nest of this bird the cow bird deposits its egg, and leaves the result to the mercy and management of the thrush, who generally performs the part of a faithful and affectionate nurse to the foundling.

The golden-crowned thrush is six inches long, and nine in extent; the whole upper parts, except the crown and hind head, are a rich yellow olive; the tips

of the wings, and inner vanes of the quills, are dusky brown; from the nostrils, a black strip passes to the hind head on each side, between which lies a bed of brownish orange; the sides of the neck are whitish; the whole lower parts, white, except the breast, which is handsomely marked with pointed spots of black, or deep brown, as in the figure; round the eye is a narrow ring of yellowish white; legs, pale flesh colour; bill, dusky above, whitish below. The female has the orange on the crown considerably paler.

This bird might with propriety be ranged with the wagtails, its notes, manners, and habit of building on the ground being similar to these. It usually hatches twice in the season; feeds on small bugs, and the larvæ of insects, which it chiefly gathers from the ground. It is very generally diffused over the United States, and winters in Jamaica, Hispaniola, and other islands of the West Indies.

97. *SYLVIA NOVEBORACENSIS*, LATHAM. — *TURDUS AQUATICUS*, WILSON.

WATER THRUSH.

WILSON, PLATE XXIII. FIG. V.

THIS bird is remarkable for its partiality to brooks, rivers, shores, ponds, and streams of water; wading in the shallows in search of aquatic insects, wagging the tail almost continually, chattering as it flies,—and, in short, possesses many strong traits and habits of the water wagtail. It is also exceedingly shy, darting away on the least attempt to approach it, and uttering a sharp chip repeatedly, as if greatly alarmed. Among the mountain streams in the state of Tennessee, I found a variety of this bird pretty numerous, with legs of a bright yellow colour; in other respects it differed not from the rest. About the beginning of May it passes through Pennsylvania to the north; is seen along the channels of our solitary streams for ten or twelve days; afterwards disappears until August. It is probable

that it breeds in the higher mountainous districts even of this state, as do many other of our spring visitants that regularly pass a week or two with us in the lower parts, and then retire to the mountains and inland forests to breed.

But Pennsylvania is not the favourite resort of this species. The cane brakes, swamps, river shores, and deep watery solitudes of Louisiana, Tennessee, and the Mississippi territory, possess them in abundance; there they are eminently distinguished by the loudness, sweetness, and expressive vivacity of their notes, which begin very high and clear, falling with an almost imperceptible gradation till they are scarcely articulated. At these times the musician is perched on the middle branches of a tree over the brook or river bank, pouring out his charming melody, that may be distinctly heard for nearly half a mile. The voice of this little bird appeared to me so exquisitely sweet and expressive, that I was never tired of listening to it, while traversing the deep shaded hollows of those cane brakes where it usually resorts. I have never yet met with its nest.

The water thrush is six inches long, and nine and a half in extent; the whole upper parts are of a uniform and very dark olive, with a line of white extending over the eye, and along the sides of the neck; the lower parts are white, tinged with yellow ochre; the whole breast and sides are marked with pointed spots or streaks of black or deep brown; bill, dusky brown; legs, flesh coloured; tail, nearly even; bill, formed almost exactly like the golden-crowned thrush just described; and except in frequenting the water, much resembling it in manners. Male and female nearly alike.

98. *SYLVIA VIRENS*, LATHAM AND WILSON.

BLACK-THROATED GREEN WARBLER.

WILSON, PLATE XVII. FIG. III.

THIS is one of those transient visitors that pass through Pennsylvania, in the latter part of April and

beginning of May, on their way to the north to breed. It generally frequents the high branches and tops of trees, in the woods, in search of the *larvæ* of insects that prey on the opening buds. It has a few singular chirruping notes; and is very lively and active. About the 10th of May it disappears. It is rarely observed on its return in the fall, which may probably be owing to the scarcity of its proper food at that season obliging it to pass with greater haste; or to the foliage, which prevents it and other passengers from being so easily observed. Some few of these birds, however, remain all summer in Pennsylvania, having myself shot three this season, [1809,] in the month of June; but I have never yet seen their nest.

This species is four inches and three quarters long, and seven broad; the whole back, crown, and hind head, is of a rich yellowish green; front, cheeks, sides of the breast, and line over the eye, yellow; chin and throat, black; sides, under the wings, spotted with black; belly and vent, white; wings, dusky black, marked with two white bars; bill, black; legs and feet, brownish yellow; tail, dusky, edged with light ash; the three exterior feathers spotted on their inner webs with white. The female is distinguished by having no black on the throat.

99. *SYLFIA CORONATA*, LATHAM AND WILSON.

YELLOW-RUMP WARBLER.

WILSON, PLATE XVII. FIG. IV. — SUMMER DRESS.

In this beautiful little species we have another instance of the mistakes occasioned by the change of colour to which many of our birds are subject. In the present case this change is both progressive and periodical. The young birds of the first season are of a brown olive above, which continues until the month of February and March; about which time it gradually changes into a fine slate colour. About the middle of April this change is completed. I have shot them in all their

gradations of change. While in their brown olive dress, the yellow on the sides of the breast and crown is scarcely observable, unless the feathers be parted with the hand; but that on the rump is still vivid; the spots of black on the cheek are then also obscured. The difference of appearance, however, is so great, that we need scarcely wonder that foreigners, who have no opportunity of examining the progress of these variations, should have concluded them to be two distinct species.

This bird is also a passenger through Pennsylvania. Early in October he arrives from the north, in his olive dress, and frequents the cedar trees, devouring the berries with great avidity. He remains with us three or four weeks, and is very numerous wherever there are trees of the red cedar covered with berries. He leaves us for the south, and spends the winter season among the myrtle swamps of Virginia, the Carolinas, and Georgia. The berries of the *myrica cerifera*, both the large and dwarf kind, are his particular favourites. On those of the latter I found him feeding, in great numbers, near the sea shore, in the district of Maine, in October; and through the whole of the lower parts of the Carolinas, wherever the myrtles grew, these birds were numerous, skipping about, with hanging wings, among the bushes. In those parts of the country, they are generally known by the name of myrtle birds. Round Savannah, and beyond it as far as the Alatomaha, I found him equally numerous, as late as the middle of March, when his change of colour had considerably progressed to the slate hue. Mr Abbot, who is well acquainted with this change, assured me, that they attain this rich slate colour fully before their departure from thence, which is about the last of March, and to the 10th of April. About the middle or 20th of the same month, they appear in Pennsylvania, in full dress; and after continuing to be seen, for a week or ten days, skipping among the high branches and tops of the trees, after those larvæ that feed on the opening buds, they disappear until the next October.

Whether they retire to the north, or to the high ranges of our mountains to breed, like many other of our passengers, is yet uncertain. They are a very numerous species, and always associate together in considerable numbers, both in spring, winter, and fall.

This species is five inches and a half long, and eight inches broad; whole back, tail-coverts, and hind head, a fine slate colour, streaked with black; crown, sides of the breast, and rump, rich yellow; wings and tail, black; the former crossed with two bars of white, the three exterior feathers of the latter spotted with white; cheeks and front, black; chin, line over and under the eye, white; breast, light slate, streaked with black extending under the wings; belly and vent, white, the latter spotted with black; bills and legs, black. This is the spring and summer dress of the male; that of the female of the same season differs but little, chiefly in the colours being less vivid, and not so strongly marked with a tincture of brownish on the back.

In the month of October the slate colour has changed to a brownish olive; the streaks of black are also considerably brown, and the white is stained with the same colour; the tail-coverts, however, still retain their slaty hue, the yellow on the crown and sides of the breast becomes nearly obliterated. Their only note is a kind of chip, occasionally repeated. Their motions are quick, and one can scarcely ever observe them at rest.

Though the form of the bill of this bird obliges me to arrange him with the warblers, yet, in his food and all his motions, he is decisively a flycatcher.

On again recurring to the descriptions in Pennant of the "yellow-rump warbler,"* "golden crowned warbler,"† and "belted warbler,"‡ I am persuaded that the whole three have been drawn from the present species.

* *Arctic Zoology*, p. 400, No. 188.

† *Ibid.* No. 294.

‡ *Ibid.* No. 306.

100. *SYLVIA CORONATA*, LATHAM AND WILSON.

YELLOW-RUMP WARBLER.

WILSON, PLATE XLV. FIG. III.—WINTER PLUMAGE.

I MUST refer the reader to the last article for the description of this bird in his perfect colours; the present exhibits him in his winter dress, as he arrives to us, from the north, early in September; the former shews him in his spring and summer dress, as he visits us, from the south, about the 20th of March. These birds remain with us, in Pennsylvania, from September, until the season becomes severely cold, feeding on the berries of the red cedar; and, as December's snows come on, they retreat to the lower countries of the southern States, where, in February, I found them in great numbers, among the myrtles, feeding on the berries of that shrub; from which circumstance, they were usually called, in that quarter, myrtle birds. Their breeding place I suspect to be in our northern districts, among the swamps and evergreens so abundant there, having myself shot them in the Great Pine swamp about the middle of May.

They range along our whole Atlantic coast in winter, seeming particularly fond of the red cedar and the myrtle; and I have found them numerous, in October, on the low islands along the coast of New Jersey in the same pursuit. They also dart after flies, wherever they can see them, generally skipping about with the wings loose.

Length, five inches and a quarter; extent, eight inches; upper parts and sides of the neck, a dark mouse brown, obscurely streaked on the back with dusky black; lower parts, pale dull yellowish white; breast, marked with faint streaks of brown; chin and vent, white; rump, vivid yellow; at each side of the breast, and also on the crown, a spot of fainter yellow; this last not observable, without separating the plumage; bill, legs, and wings, black; lesser coverts, tipped with

brownish white; tail coverts, slate; the three exterior tail feathers, marked on their inner vanes with white; a touch of the same on the upper and lower eyelid. Male and female, at this season, nearly alike. They begin to change about the middle of February, and in four or five weeks are in their slate-coloured dress.

101. *SELVIA MAGNOLIA*, WILSON. — *S. MACULOSA*, LATH.

BLACK AND YELLOW WARBLER.

WILSON, PLATE XXIII. FIG. II. — MALE.

THIS bird I first met with on the banks of the Little Miami, near its junction with the Ohio. I afterwards found it among the magnolias, not far from fort Adams, on the Mississippi. These two, both of which happened to be males, are all the individuals I have ever shot of this species; from which I am justified in concluding it to be a very scarce bird in the United States. Mr Peale, however, has the merit of having been the first to discover this elegant species, which, he informs me, he found several years ago not many miles from Philadelphia. No notice has ever been taken of this bird by any European naturalist whose works I have examined. Its notes, or rather chirpings, struck me as very peculiar and characteristic; but have no claim to the title of song. It kept constantly among the higher branches, and was very active and restless.

Length, five inches; extent, seven inches and a half; front, lores, and behind the ear, black; over the eye, a fine line of white, and another small touch of the same immediately under; back, nearly all black; shoulders, thinly streaked with olive; rump, yellow; tail-coverts, jet black; inner vanes of the lateral tail feathers, white, to within half an inch of the tip, where they are black; two middle ones, wholly black; whole lower parts, rich yellow, spotted from the throat downwards with black streaks; vent, white; tail, slightly forked; wings, black, crossed with two broad transverse bars

of white; crown, fine ash; legs, brown; bill, black. Markings of the female not known.

102 *SYLVIA BLACKBURNIÆ*, LATHAM AND WILSON.

BLACKBURNIAN WARBLER.

WILSON, PLATE XXIII. FIG. III.

THIS is another scarce species in Pennsylvania, making its appearance here about the beginning of May; and again in September on its return, but is seldom seen here during the middle of summer. It is an active, silent bird. Inhabits also the State of New York, from whence it was first sent to Europe. Mr Latham has numbered this as a variety of the yellow-fronted warbler, a very different species. The specimen sent to Europe, and first described by Pennant, appears also to have been a female, as the breast is said to be yellow, instead of the brilliant orange with which it is ornamented. Of the nest and habits of this bird I can give no account, as there is not more than one or two of these birds to be found here in a season, even with the most diligent search.

The Blackburnian warbler is four inches and a half long, and seven in extent; crown, black, divided by a line of orange; the black again bounded on the outside by a stripe of rich orange passing over the eye; under the eye, a small touch of orange yellow; whole throat and breast, rich fiery orange, bounded by spots and streaks of black; belly, dull yellow, also streaked with black; vent, white; back, black, skirted with ash; wings the same, marked with a large lateral spot of white; tail, slightly forked; the interior vanes of the three exterior feathers, white; cheeks, black; bill and legs, brown. The female is yellow where the male is orange; the black streaks are also more obscure and less numerous.

103. *SYLZIA MARITIMA*, WILSON. — CAPE MAY WARBLER.

WILSON, PLATE LIV. FIG. III. — MALE.

THIS new and beautiful little species was discovered in a maple swamp, in Cape May county, not far from the coast, by Mr George Ord of this city, who accompanied me on a shooting excursion to that quarter in the month of May last, [1811.] Through the zeal and activity of this gentleman I succeeded in procuring many rare and elegant birds among the sea islands and extensive salt marshes that border that part of the Atlantic; and much interesting information relative to their nests, eggs, and particular habits. I have also at various times been favoured with specimens of other birds from the same friend, for all which I return my grateful acknowledgments.

The same swamp that furnished us with this elegant little stranger, and indeed several miles around it, were ransacked by us both for another specimen of the same; but without success. Fortunately it proved to be a male, and in excellent plumage.

Whether this be a summer resident in the lower parts of New Jersey, or merely a transient passenger to a more northern climate, I cannot with certainty determine. The spring had been remarkably cold, with long and violent northeast storms, and many winter birds, as well as passengers from the south, still lingered in the woods as late as the 20th of May, gleaning, in small companies, among the opening buds and infant leaves, and skipping nimbly from twig to twig, which was the case with the bird now before us when it was first observed. Of its notes, or particular history, I am equally uninformed.

The length of this species is five inches and a half, extent, eight and a half; bill and legs, black; whole upper part of the head, deep black; line from the nostril over the eye, chin, and sides of the neck, rich yellow; ear feathers orange, which also tints the back part of

the yellow line over the eye ; at the anterior and posterior angle of the eye is a small touch of black ; hind head and whole back, rump, and tail-coverts, yellow olive, thickly streaked with black ; the upper exterior edges of several of the greater wing-coverts are pure white, forming a broad bar on the wing, the next superior row being also broadly tipped with white ; rest of the wing, dusky, finely edged with dark olive yellow ; throat and whole breast, rich yellow, spreading also along the sides under the wings, handsomely marked with spots of black running in chains ; belly and vent, yellowish white ; tail, forked, dusky black, edged with yellow olive, the three exterior feathers on each side marked on their inner vanes with a spot of white. The yellow on the throat and sides of the neck reaches nearly round it, and is very bright.

104. *SYLVIA PARDALINA*, BONAPARTE.

MUSCICAPA CANADENSIS, WILSON. — CANADA FLYCATCHER.

WILSON, PLATE XXVI. FIG. II. — MALE.

THIS is a solitary, and, in the lower parts of Pennsylvania, rather a rare species ; being more numerous in the interior, particularly near the mountains, where the only two I ever met with were shot. They are silent birds, as far as I could observe ; and were busily darting among the branches after insects. From the specific name given them, it is probable that they are more plenty in Canada than in the United States ; where it is doubtful whether they be not mere passengers in spring and autumn.

This species is four inches and a half long, and eight in extent ; front, black ; crown, dappled with small streaks of grey and spots of black ; line from the nostril to and around the eye, yellow ; below the eye, a streak or spot of black, descending along the sides of the throat, which, as well as the breast and belly, is brilliant yellow, the breast being marked with a broad rounding band of

black, composed of large irregular streaks ; back, wings, and tail, cinereous brown ; vent, white ; upper mandible, dusky, lower, flesh coloured ; legs and feet, the same ; eye, hazel.

Never having met with the female of this bird, I am unable, at present, to say in what its colours differ from those of the male.

105. *SYLFIA MITRATA*, LATH. — *MUSCICAPA CUCULLATA*, WILSON.

HOODED FLYCATCHER.

WILSON, PLATE XXVI. FIG. III. — MALE.

WHY those two judicious naturalists, Pennant and Latham, should have arranged this bird with the warblers is to me unaccountable, as few of the *muscicapæ* are more distinctly marked than the species now before us. The bill is broad at the base, where it is beset with bristles ; the upper mandible, notched, and slightly overhanging at the tip ; and the manners of the bird, in every respect, those of a flycatcher. This species is seldom seen in Pennsylvania and the northern States ; but through the whole extent of country south of Maryland, from the Atlantic to the Mississippi, is very abundant. It is, however, most partial to low situations, where there is plenty of thick underwood ; abounds among the canes in the State of Tennessee, and in the Mississippi territory ; and seems perpetually in pursuit of winged insects ; now and then uttering three loud, not unmusical, and very lively notes, resembling *twee, twee, twitchie*, while engaged in the chase. Like almost all its tribe, it is full of spirit, and exceedingly active. It builds a very neat and compact nest, generally in the fork of a small bush, forms it outwardly of moss and flax, or broken hemp, and lines it with hair, and sometimes feathers ; the eggs are five, of a grayish white, with red spots towards the great end. In all parts of the United States, where it inhabits, it is a bird of passage. At Savannah I met with it about the 20th of

March; so that it probably retires to the West India islands, and perhaps Mexico, during winter. I also heard this bird among the rank reeds and rushes within a few miles of the mouth of the Mississippi. It has been sometimes seen in the neighbourhood of Philadelphia, but rarely; and, on such occasions, has all the mute timidity of a stranger at a distance from home.

This species is five inches and a half long, and eight in extent; forehead, cheeks, and chin, yellow, surrounded with a hood of black, that covers the crown, hind head, and part of the neck, and descends, rounding, over the breast; all the rest of the lower parts are rich yellow; upper parts of the wings, the tail, and back, yellow olive; interior vanes, and tips of the wing and tail, dusky; bill, black; legs, flesh coloured; inner webs of the three exterior tail feathers, white for half their length from the tips; the next, slightly touched with white; the tail slightly forked, and exteriorly edged with rich yellow olive.

The female has the throat and breast yellow, slightly tinged with blackish; the black does not reach so far down the upper part of the neck, and is not of so deep a tint. In the other parts of her plumage she exactly resembles the male. I have found some females that had little or no black on the head or neck above; but these I took to be young birds, not yet arrived at their full tints.

106. *SYLVIA PENSILIS*, LATH. — *SYLVIA FLAVICOLLIS*, WILS.

YELLOW-THROAT WARBLER.

WILSON, PLATE XII. FIG. VI.

THE habits of this beautiful species are not consistent with the shape and construction of its bill; the former would rank it with the titmouse, or with the creepers, the latter is decisively that of the warbler. The first opportunity I had of examining a living specimen of this bird, was in the southern parts of Georgia, in the month of February. Its notes, which were pretty loud

and spirited, very much resembled those of the indigo bird. It continued a considerable time on the same pine tree, creeping around the branches, and among the twigs, in the manner of the titmouse, uttering its song every three or four minutes. On flying to another tree, it frequently alighted on the body, and ran nimbly up or down, spirally and perpendicularly, in search of insects. I had afterwards many opportunities of seeing others of the same species, and found them all to correspond in these particulars. This was about the 24th of February, and the first of their appearance there that spring, for they leave the United States about three months during winter, and, consequently, go to no great distance. I had been previously informed, that they also pass the summer in Virginia, and in the southern parts of Maryland; but they very rarely proceed as far north as Pennsylvania.

This species is five inches and a half in length, and eight and a half broad; the whole back, hind head and rump, is a fine light slate colour; the tail is somewhat forked, black, and edged with light slate; the wings are also black, the three shortest secondaries, broadly edged with light blue; all the wing quills are slightly edged with the same; the first row of wing-coverts are tipped and edged with white, the second, wholly white, or nearly so; the frontlet, ear feathers, lores, and above the temple, are black; the line between the eye and nostril, whole throat, and middle of the breast, brilliant golden yellow; the lower eyelid, line over the eye, and spot behind the ear feathers, as well as the whole lower parts, are pure white; the yellow on the throat is bordered with touches of black, which also extend along the sides, under the wings; the bill is black; the legs and feet, yellowish brown; the claws, extremely fine pointed; the tongue rather cartilaginous, and lacerated at the end. The female has the wings of a dingy brown, and the whole colours, particularly the yellow on the throat, much duller; the young birds of the first season are without the yellow.

107. *SYLVIA CASTANEA*, WILSON. — BAY-BREASTED WARBLER.

WILSON, PLATE XIV. FIG. IV.

THIS very rare species passes through Pennsylvania about the beginning of May, and soon disappears. It has many of the habits of the titmouse, and all their activity; hanging among the extremities of the twigs, and darting about from place to place, with restless diligence, in search of various kinds of the larvæ of insects. It is never seen here in summer, and very rarely on its return, owing, no doubt, to the greater abundance of foliage at that time, and to the silence and real scarcity of the species. Of its nest and egg, we are altogether uninformed.

The length of this bird is five inches, breadth, eleven; throat, breast, and sides under the wings, pale chestnut, or bay; forehead, cheeks, line over, and strip through the eye, black; crown, deep chestnut; lower parts, dull yellowish white; hind head and back, streaked with black, on a grayish buff ground; wings, brownish black, crossed with two bars of white; tail, forked, brownish black, edged with ash, the three exterior feathers marked with a spot of white on their inner edges; behind the eye is a broad oblong spot of yellowish white. The female has much less of the bay colour on the breast; the black on the forehead is also less, and of a brownish tint. The legs and feet, in both, are dark ash, the claws, extremely sharp for climbing and hanging; the bill is black; irides, hazel.

The ornithologists of Europe take no notice of this species, and have probably never met with it. Indeed, it is so seldom seen in this part of Pennsylvania, that few even of our own writers have mentioned it.

I lately received a very neat drawing of this bird, done by a young lady in Middleton, Connecticut, where it seems also to be a rare species.

108. *SYLVIA PENNSYLVANICA*, WILSON. — *SYLVIA ICTEROPHALA*, LATHAM.

CHESTNUT-SIDED WARBLER.

WILSON, PLATE XIV. FIG. V.

OF this bird I can give but little account. It is one of those transient visitors that pass through Pennsylvania in April and May, on their way farther north to breed. During its stay here, which seldom exceeds a week or ten days, it appears actively engaged among the opening buds and young leaves, in search of insects; has no song but a feeble chirp, or twitter; and is not numerous. As it leaves us early in May, it probably breeds in Canada, or, perhaps, some parts of New England; though I have no certain knowledge of the fact. In a whole day's excursion, it is rare to meet with more than one or two of these birds; though a thousand individuals of some species may be seen in the same time. Perhaps they may be more numerous on some other part of the continent.

The length of this species is five inches, the extent, seven and three quarters. The front, line over the eye, and ear feathers, are pure white; upper part of the head, brilliant yellow; the lores, and space immediately below, are marked with a triangular patch of black; the back and hind head is streaked with gray, dusky, black, and dull yellow; wings, black; primaries, edged with pale blue, the first and second row of coverts, broadly tipped with pale yellow; secondaries, broadly edged with the same; tail, black, handsomely forked, exteriorly edged with ash; the inner webs of the three exterior feathers with each a spot of white; from the extremity of the black, at the lower mandible, on each side, a streak of deep reddish chestnut descends along the sides of the neck, and under the wings, to the root of the tail; the rest of the lower parts are pure white; legs and feet, ash; bill, black; irides, hazel. The female has the hind head much lighter, and the chestnut on the

sides is considerably narrower, and not of so deep a tint.

Turton, and some other writers, have bestowed on this little bird the singular epithet of "bloody-sided," for which I was at a loss to know the reason, the colour of that part being a plain chestnut; till, on examining Mr Edwards's coloured figure of this bird in the public library of Philadelphia, I found its side tinged with a brilliant blood colour. Hence, I suppose, originated the name!

109. *SYLVIA PHILADELPHIA*, WILSON. — MOURNING WARBLER.

WILSON, PLATE XIV. FIG. VI.

I HAVE now the honour of introducing to the notice of naturalists and others, a very modest and neat little species, which has hitherto eluded their research. I must also add, with regret, that it is the only one of its kind I have yet met with. It was shot in the early part of June, on the border of a marsh, within a few miles of Philadelphia. It was flitting from one low bush to another, very busy in search of insects; and had a sprightly and pleasant warbling song, the novelty of which first attracted my attention. I have traversed the same and many such places, every spring and summer since, in expectation of again meeting with some individual of the species, but without success.

There are two species mentioned by Turton, to which the present has some resemblance, viz. *motacillamitrata*, or mitred warbler, and *m. cucullata*, or hooded warbler; both birds of the United States, or, more properly, a single bird; for they are the same species twice described, namely, the hooded warbler. The difference, however, between that and the present is so striking, as to determine this at once to be a very distinct species. The singular appearance of the head, neck, and breast, suggested the name.

The mourning warbler is five inches long, and seven in extent; the whole back, wings, and tail, are of a

deep greenish olive; the tips of the wings, and the centre of the tail feathers excepted, which are brownish; the whole head is of a dull slate colour; the breast is ornamented with a singular crescent of alternate transverse lines of pure glossy white, and very deep black; all the rest of the lower parts are of a brilliant yellow; the tail is rounded at the end; legs and feet, a pale flesh colour; bill, deep brownish black above, lighter below; eye, hazel.

110. *SYLVIA CITRINELLA*, WILSON. — *S. ÆSTIVA*, LATHAM.

BLUE-EYED YELLOW WARBLER.

WILSON, PLATE XV. FIG. V.

THIS is a very common summer species, and appears almost always actively employed among the leaves and blossoms of the willows, snowball shrub, and poplars, searching after small green caterpillars, which are its principal food. It has a few shrill notes, uttered with emphasis, but not deserving the name of song. It arrives in Pennsylvania about the beginning of May, and departs again for the south about the middle of September. According to Latham, it is numerous in Guiana, and is also found in Canada. It is a very sprightly, unsuspicious, and familiar little bird; is often seen in and about gardens, among the blossoms of fruit trees and shrubberies; and, on account of its colour, is very noticeable. Its nest is built with great neatness, generally in the triangular fork of a small shrub, near or among brier bushes. Outwardly it is composed of flax or tow, in thick circular layers, strongly twisted round the twigs that rise through its sides, and lined within with hair and the soft downy substance from the stalks of fern. The eggs are four or five, of a dull white, thickly sprinkled near the great end with specks of pale brown. They raise two brood in the season. This little bird, like many others, will feign lameness, to draw you away from its nest, stretching out his neck,

spreading and bending down his tail, until it trails along the branch, and fluttering feebly along, to draw you after him; sometimes looking back, to see if you are following him, and returning to repeat the same manœuvres, in order to attract your attention. The male is most remarkable for this practice.

The blue-eyed warbler is five inches long and seven broad; hind head and back, greenish yellow; crown, front, and whole lower parts, rich golden yellow; breast and sides, streaked laterally with dark red; wings and tail, deep brown, except the edges of the former, and the inner vanes of the latter, which are yellow; the tail is also slightly forked; legs, a pale clay colour; bill and eyelids, light blue. The female is of a less brilliant yellow, and the streaks of red on the breast are fewer and more obscure. Buffon is mistaken in supposing No. 1. of pl. enl. plate lviii. to be the female of this species.

111. *SYLVIA CANADENSIS*, LATHAM AND WILSON.

BLACK-THROATED BLUE WARBLER.

WILSON, PLATE XV. FIG. VII.

I know little of this bird. It is one of those transient visitors that, in the month of April, pass through Pennsylvania, on its way to the north, to breed. It has much of the flycatcher in its manners, though the form of its bill is decisively that of the warbler. These birds are occasionally seen for about a week or ten days, viz. from the 25th of April to the end of the first week in May. I sought for them in the southern States in winter, but in vain. It is highly probable that they breed in Canada; but the summer residents among the feathered race, on that part of the continent, are little known or attended to. The habits of the bear, the deer, and beaver, are much more interesting to those people, and for a good substantial reason too, because more lucrative; and unless there should arrive an order from England for a cargo of skins of warblers and

flycatchers, sufficient to make them an object worth speculation, we are likely to know as little of them hereafter as at present.

This species is five inches long, and seven and a half broad, and is wholly of a fine light slate colour above; the throat, cheeks, front and upper part of the breast, are black; wings and tail, dusky black, the primaries marked with a spot of white immediately below their coverts; tail, edged with blue; belly and vent, white; legs and feet, dirty yellow; bill, black, and beset with bristles at the base. The female is more of a dusky ash on the breast; and, in some specimens, nearly white.

They, no doubt, pass this way on their return in autumn, for I have myself shot several in that season; but as the woods are then still thick with leaves, they are much more difficult to be seen, and make a shorter stay than they do in spring.

112. *SYLVIA CÆRULEA*, WILSON. — *S. AZUREA*, STEPHEN.

CÆRULEAN WARBLER.

WILSON, PLATE XVII. FIG. V. — MALE.

THIS delicate little species is now, for the first time, introduced to public notice. Except my friend, Mr Peale, I know of no other naturalist who seems to have hitherto known of its existence. At what time it arrives from the south, I cannot positively say, as I never met with it in spring, but have several times found it during summer. On the borders of streams and marshes, among the branches of the poplar, it is sometimes to be found. It has many of the habits of the flycatcher; though, like the yellow-rump warbler, from the formation of its bill, we must arrange it with the warblers. It is one of our scarce birds in Pennsylvania, and its nest has hitherto eluded my search. I have never observed it after the 20th of August, and therefore suppose it retires early to the south.

This bird is four inches and a half long, and seven

and a half broad; the front and upper part of the head, is a fine verditer blue; the hind head and back, of the same colour, but not quite so brilliant; a few lateral streaks of black mark the upper part of the back; wings and tail, black, edged with sky blue; the three secondaries next the body, edged with white, and the first and second row of coverts also tipped with white; tail-coverts, large, black, and broadly tipped with blue; lesser wing-coverts, black, also broadly tipped with blue, so as to appear nearly wholly of that tint; sides of the breast, spotted or streaked with blue; belly, chin, and throat, pure white; the tail is forked, the five lateral feathers on each side with each a spot of white; the two middle more slightly marked with the same; from the eye backwards extends a line of dusky blue; before and behind the eye, a line of white; bill, dusky above, light blue below; legs and feet, light blue.

113. *SYLVIA TRICHAS*, LATH. — *SYLVIA MARYLANDICA*, WILSON.

MARYLAND YELLOW-THROAT.

WILSON, PLATE VI. FIG. 1. — MALE.

THIS is one of the humble inhabitants of briers, brambles, alder-bushes, and such shrubbery as grow most luxuriantly in low, watery situations; and might with propriety be denominated *humility*, its business or ambition seldom leading it higher than the tops of the underwood. Insects and their larvæ are its usual food. It dives into the deepest of the thicket, rambles among the roots, searches round the stems, examines both sides of the leaf, raising itself on its legs, so as to peep into every crevice; amusing itself at times with a very simple, and not disagreeable, song or twitter, *whitititee, whitititee, whitititee*; pausing for half a minute or so, and then repeating its notes as before. It inhabits the whole United States from Maine to Florida, and also Louisiana; and is particularly numerous in the low, swampy thickets of Maryland, Pennsylvania and New Jersey. It is by no means shy; but

seems deliberate and unsuspecting, as if the places it frequented, or its own diminutiveness, were its sufficient security. It often visits the fields of growing rye, wheat, barley, &c. and no doubt performs the part of a friend to the farmer, in ridding the stalks of vermin, that might otherwise lay waste his fields. It seldom approaches the farm house, or city; but lives in obscurity and peace, amidst its favourite thickets. It arrives in Pennsylvania about the middle, or last week, of April, and begins to build its nest about the middle of May: this is fixed on the ground, among the dried leaves, in the very depth of a thicket of briars, arched over, and a small hole left for entrance; the eggs are five, white, with touches of reddish brown. The young leave the nest about the 22d of June; and a second brood is often raised in the same season. Early in September they leave us, returning to the south.

This pretty little species is four inches and three quarters long, and six inches and a quarter in extent; back, wings, and tail, green olive, which also covers the upper part of the neck, but approaches to cinereous on the crown; the eyes are inserted in a band of black, which passes from the front, on both sides, reaching half way down the neck; this is bounded above by another band of white, deepening into light blue; throat, breast, and vent, brilliant yellow; belly, a fainter tinge of the same colour; inside coverts of the wings, also yellow; tips and inner vanes of the wings, dusky brown; tail, cuneiform, dusky, edged with olive green; bill, black, straight, slender, of the true *motacilla* form, though the bird itself was considered as a species of thrush by Linnaeus; but very properly removed to the genus *motacilla* by Gmelin; legs, flesh coloured; iris of the eye, dark hazel. The female wants the black band through the eye, has the bill brown, and the throat of a much paler yellow.

114. *SYLVIA TRICHAS*, LATH. — *SYLVIA MARYLANDICA*, WILSON.

MARYLAND YELLOW-THROAT.

WILSON, PLATE XVIII. FIG. IV. — FEMALE.

THE male of this species having been described in the preceding article, accompanied by a particular detail of its manners, I have little farther to add here relative to this bird. I found several of them round Wilmington, North Carolina, in the month of January, along the margin of the river, and by the Cypress Swamp, on the opposite side. The individual from which the description was taken, was the actual nurse of a young cow-pen bunting, in the act of feeding which I took a drawing of it.

It is five inches long, and seven in extent; the whole upper parts, green olive; something brownish on the neck, tips of the wings, and head; the lower parts, yellow, brightest on the throat and vent; legs, flesh coloured. The chief difference between this and the male, in the markings of their plumage, is, that the female is destitute of the black bar through the eyes, and the bordering one of pale bluish white.

115. *SYLVIA WILSONII*, BONAP. — *MUSCICAPA PUSILLA*, WILSON.

GREEN BLACK-CAPT FLYCATCHER.

WILSON, PLATE XXVI. FIG. IV.

THIS neat and active little species I have never met with in the works of any European naturalist. It is an inhabitant of the swamps of the southern States, and has been several times seen in the lower parts of the States of New Jersey and Delaware. Amidst almost unapproachable thickets of deep morasses it commonly spends its time, during summer, and has a sharp squeaking note, nowise musical. It leaves the southern States early in October.

This species is four inches and a half long, and six and a half in extent; front line over the eye, and whole lower parts, yellow, brightest over the eye, and dullest on the cheeks, belly, and vent, where it is tinged with olive; upper parts, olive green; wings and tail, dusky brown, the former very short; legs and bill, flesh coloured; crown, covered with a patch of deep black; iris of the eye, hazel.

The female is without the black crown, having that part of a dull yellow olive, and is frequently mistaken for a distinct species.

116. *SYLVIA TIGRINA*, LATHAM. — *SYLVIA MONTANA*, WILSON.

BLUE MOUNTAIN WARBLER.

WILSON, PLATE XLIV. FIG. II. — MALE.

THIS new species was first discovered near that celebrated ridge, or range of mountains, with whose name I have honoured it. Several of these solitary warblers remain yet to be gleaned up from the airy heights of our alpine scenery, as well as from the recesses of our swamps and morasses, whither it is my design to pursue them by every opportunity. Some of these, I believe, rarely or never visit the lower cultivated parts of the country; but seem only at home among the glooms and silence of those dreary solitudes. The present species seems of that family, or subdivision of the warblers, that approach the flycatcher, darting after flies wherever they see them, and also searching with great activity among the leaves. Its song was a feeble screech, three or four times repeated.

This species is four inches and three quarters in length; the upper parts, a rich yellow olive; front, cheeks, and chin, yellow, also the sides of the neck; breast and belly, pale yellow, streaked with black or dusky; vent, plain pale yellow; wings, black; first and second row of coverts, broadly tipped with pale yellowish white; tertials the same; the rest of the quills edged with whitish; tail, black, handsomely rounded, edged

with pale olive; the* two exterior feathers, on each side, white on the inner vanes from the middle to the tips, and edged on the outer side with white; bill, dark brown; legs and feet, purple brown; soles, yellow; eye, dark hazel.

This was a male. The female I have never seen.

117. *SYLVIA PARUS*, WILSON. — HEMLOCK WARBLER.

WILSON, PLATE XLIV. FIG. III. — MALE.

THIS is another nondescript, first met with in the Great Pine swamp, Pennsylvania. From observing it almost always among the branches of the hemlock trees, I have designated it by that appellation, the markings of its plumage not affording me a peculiarity sufficient for a specific name. It is a most lively and active little bird, climbing among the twigs, and hanging like a titmouse on the branches; but possessing all the external characters of the warblers. It has a few low and very sweet notes, at which times it stops and repeats them for a short time, then darts about as before. It shoots after flies to a considerable distance; often begins at the lower branches, and hunts with great regularity and admirable dexterity, upwards to the top, then flies off to the next tree, at the lower branches of which it commences hunting upwards as before.

This species is five inches and a half long; and eight inches in extent; bill, black above, pale below; upper parts of the plumage, black, thinly streaked with yellow olive; head above, yellow, dotted with black; line from the nostril over the eye, sides of the neck, and whole breast, rich yellow; belly, paler, streaked with dusky; round the breast, some small streaks of blackish; wing, black, the greater coverts and next superior row, broadly tipped with white, forming two broad bars across the wing; primaries, edged with olive, tertials, with white; tail-coverts, black, tipped with olive;

tail, slightly forked, black, and edged with olive; the three exterior feathers altogether white on their inner vanes; legs and feet, dirty yellow; eye, dark hazel; a few bristles at the mouth; bill not notched.

This was a male. Of the female I can at present give no account.

118. *SYLVIA STRIATA*, LATHAM AND WILSON.

BLACK-POLL WARBLER.

WILSON, PLATE XXX. FIG. III. — MALE.

THIS species has considerable affinity to the flycatchers in its habits. It is chiefly confined to the woods, and even there, to the tops of the tallest trees, where it is descried skipping from branch to branch, in pursuit of winged insects. Its note is a single screech, scarcely audible from below. It arrives in Pennsylvania about the 20th of April, and is first seen on the tops of the highest maples, darting about among the blossoms. As the woods thicken with leaves, it may be found pretty generally, being none of the least numerous of our summer birds. It is, however, most partial to woods in the immediate neighbourhood of creeks, swamps, or morasses, probably from the greater number of its favourite insects frequenting such places. It is also pretty generally diffused over the United States, having myself met with it in most quarters of the Union; though its nest has hitherto defied all my researches.

This bird may be considered as occupying an intermediate station between the flycatchers and the warblers, having the manners of the former, and the bill, partially, of the latter. The nice gradations by which nature passes from one species to another, even in this department of the great chain of beings, will for ever baffle all the artificial rules and systems of man. And this truth every fresh discovery must impress more forcibly on the mind of the observing naturalist. These birds leave us early in September.

The black-poll warbler is five and a half inches long,

and eight and a half in extent; crown and hind head, black; cheeks, pure white; from each lower mandible runs a streak of small black spots, those on the side larger; the rest of the lower parts, white; primaries, black, edged with yellow; rest of the wing, black, edged with ash; the first and second row of coverts, broadly tipped with white; back, ash, tinged with yellow ochre, and streaked laterally with black; tail, black, edged with ash, the three exterior feathers, marked on the inner webs with white; bill, black above, whitish below, furnished with bristles at the base; iris, hazel; legs and feet, reddish yellow.

The female differs very little in plumage from the male.

119. *SYLVIA STRIATA*, LATHAM AND WILSON.

BLACK-POLL WARBLER.

WILSON, PLATE LIV. FIG. IV. — FEMALE.

THIS bird was shot in the same excursion with the Cape May warbler described at page 133, and is introduced here for the purpose of preventing future collectors, into whose hands specimens of it may chance to fall, from considering it as another and a distinct species. It doubtless breeds both here and in New Jersey, having myself found it in both places during the summer. From its habit of keeping on the highest branches of trees, it probably builds in such situations, and its nest may long remain unknown to us.

Pennant, who describes this species, says that it inhabits during summer Newfoundland and New York, and is called in the last *sailor*. This name, for which, however, no reason is given, must be very local, as the bird itself is one of those silent, shy, and solitary individuals, that seek the deep retreats of the forest, and are known to few or none but the naturalist.

Length of the female black-cap, five inches and a quarter, extent, eight and a quarter; bill, brownish black; crown, yellow olive, streaked with black; back,

the same, mixed with some pale slate; wings, dusky brown, edged with olive; first and second wing-coverts, tip with white; tertials, edged with yellowish white; tail-coverts, pale gray; tail, dusky, forked, the two exterior feathers marked on their inner vanes with a spot of white; round the eye is a whitish ring; cheeks and sides of the breast, tinged with yellow, and slightly spotted with black; chin, white, as are also the belly and vent; legs and feet, dirty orange.

The young bird of the first season, and the female, as is usually the case, are very much alike in plumage. On their arrival early in April, the black feathers on the crown are frequently seen coming out, intermixed with the former ash coloured ones.

This species has all the agility and many of the habits of the flycatcher.

120. *SYLVIA FORMOSA*, WILSON. — KENTUCKY WARBLER.

WILSON, PLATE XXV. FIG. III.

THIS new and beautiful species inhabits the country whose name it bears. It is also found generally in all the intermediate tracts between Nashville and New Orleans, and below that as far as the Balize, or mouths of the Mississippi; where I heard it several times, twittering among the high rank grass and low bushes of those solitary and desolate looking morasses. In Kentucky and Tennessee it is particularly numerous, frequenting low, damp woods, and builds its nest in the middle of a thick tuft of rank grass, sometimes in the fork of a low bush, and sometimes on the ground; in all of which situations I have found it. The materials are loose dry grass, mixed with the light pith of weeds, and lined with hair. The female lays four, and sometimes six eggs, pure white, sprinkled with specks of reddish. I observed her sitting early in May. This species is seldom seen among the high branches; but loves to frequent low bushes and cane swamps, and is an active sprightly bird. Its notes are loud, and in

threes, resembling *tweedle, tweedle, tweedle*. It appears in Kentucky from the south about the middle of April; and leaves the territory of New Orleans on the approach of cold weather; at least I was assured that it does not remain there during the winter. It appeared to me to be a restless, fighting species; almost always engaged in pursuing some of its fellows; though this might have been occasioned by its numbers, and the particular season of spring, when love and jealousy rage with violence in the breasts of the feathered tenants of the grove; who experience all the ardency of those passions no less than their lord and sovereign man.

The Kentucky warbler is five inches and a half long, and eight inches in extent; the upper parts are an olive green; line over the eye and partly under it, and whole lower parts, rich brilliant yellow; head slightly crested, the crown deep black, towards the hind part spotted with light ash; lores, and spot curving down the neck, also black; tail nearly even at the end, and of a rich olive green; interior vanes of that and the wings, dusky; legs, an almost transparent pale flesh colour.

The female wants the black under the eye, and the greater part of that on the crown, having those parts yellowish. This bird is very abundant in the moist woods along the Tennessee and Cumberland rivers.

121. *SYLVIA MINUTA*, WILSON. — *SYLVIA DISCOLOR*, VIEILL.

PRAIRIE WARBLER.

WILSON, PLATE XXV. FIG. IV.

THIS pretty little species I first discovered in that singular tract of country in Kentucky, commonly called the Barrens. I shot several afterwards in the open woods of the Chactaw nation, where they were more numerous. They seem to prefer these open plains, and thinly wooded tracts; and have this singularity in their manners, that they are not easily alarmed; and search among the leaves the most leisurely of any of the tribe

I have yet met with ; seeming to examine every blade of grass, and every leaf ; uttering at short intervals a feeble *chirr*. I have observed one of these birds to sit on the lower branch of a tree for half an hour at a time, and allow me to come up nearly to the foot of the tree, without seeming to be in the least disturbed, or to discontinue the regularity of its occasional note. In activity it is the reverse of the preceding species ; and is rather a scarce bird in the countries where I found it. Its food consists principally of small caterpillars and winged insects.

The prairie warbler is four inches and a half long, and six inches and a half in extent ; the upper parts are olive, spotted on the back with reddish chestnut ; from the nostril over and under the eye, yellow ; lores, black ; a broad streak of black also passes beneath the yellow under the eye ; small pointed spots of black reach from a little below that along the side of the neck and under the wings ; throat, breast, and belly, rich yellow ; vent, cream coloured, tinged with yellow ; wings, dark dusky olive ; primaries and greater coverts, edged and tipped with pale yellow ; second row of coverts, wholly yellow ; lesser, olive ; tail, deep brownish black, lighter on the edges, the three exterior feathers broadly spotted with white.

The female is destitute of the black mark under the eye ; has a few slight touches of blackish along the sides of the neck ; and some faint shades of brownish red on the back.

The nest of this species is of very neat and delicate workmanship, being pensile, and generally hung on the fork of a low bush or thicket ; it is formed outwardly of green moss, intermixed with rotten bits of wood and caterpillar's silk ; the inside is lined with extremely fine fibres of grape-vine bark ; and the whole would scarcely weigh a quarter of an ounce. The eggs are white, with a few brown spots at the great end. These birds are migratory, departing for the south in October.

122. *SYLVIA RARA*, WILSON. — BLUE GREEN WARBLER.

WILSON, PLATE XXVII. FIG. II.

THIS new species, the only one of its sort I have yet met with, was shot on the banks of Cumberland river, about the beginning of April. Whether male or female I am uncertain. It is one of those birds that usually glean among the high branches of the tallest trees, which render it difficult to be procured. It was darting about with great nimbleness among the leaves, and appeared to have many of the habits of the flycatcher. After several ineffectual excursions in search of another of the same kind, with which I might compare the present, I am obliged to introduce it with this brief account.

The specimen has been deposited in Mr Peale's museum.

The blue green warbler is four inches and a half long, and seven and a half in extent; the upper parts are verditer, tinged with pale green, brightest on the front and forehead; lores, line over the eye, throat, and whole lower parts, very pale cream; cheeks, slightly tinged with greenish; bill and legs, bright light blue, except the upper mandible, which is dusky; tail, forked, and, as well as the wings, brownish black; the former marked on the three exterior vanes with white and edged with greenish; the latter having the first and second row of coverts tipped with white. Note, a feeble chirp.

123. *SYLVIA PINUS*, WILSON AND LATHAM.

PINE-CREEPING WARBLER.

WILSON, PLATE XIX. FIG. IV.

THIS species inhabits the pine woods of the Southern States, where it is resident, and where I first observed it, running along the bark of the pines; sometimes alighting, and feeding on the ground, and almost always,

when disturbed, flying up, and clinging to the trunks of the trees. As I advanced towards the south, it became more numerous. Its note is a simple reiterated chirrup, continued for four or five seconds.

Catesby first figured and described this bird; but so imperfectly, as to produce among succeeding writers great confusion, and many mistakes as to what particular bird was intended. Edwards has supposed it to be the blue winged yellow warbler! Latham has supposed another species to be meant; and the worthy Mr Pennant has been led into the same mistakes; describing the male of one species, and the female of another, as the male and female pine-creeper. Having shot and examined great numbers of these birds, I am enabled to clear up these difficulties by the following descriptions, which will be found to be correct.

The pine-creeper warbler is five and a half inches long, and nine inches in extent; the whole upper parts are of a rich green olive, with a considerable tinge of yellow; throat, sides, and breast, yellow; wings and tail, brown, with a slight cast of bluish, the former marked with two bars of white, slightly tinged with yellow; tail, forked, and edged with ash; the three exterior feathers, marked near the tip with a broad spot of white; middle of the belly and vent-feathers white. The female is brown, tinged with olive green on the back; breast, dirty white, or slightly yellowish. The bill in both is truly that of a warbler; and the tongue, slender, as in the *motacilla* genus, notwithstanding the habits of the bird.

The food of these birds is the seeds of the pitch pine, and various kinds of bugs. The nest, according to Mr Abbot, is suspended from the horizontal fork of a branch, and formed outwardly of slips of grape-vine bark, rotten wood, and caterpillar's webs, with sometimes pieces of hornet's nests interwoven; and is lined with dry pine leaves, and fine roots of plants. The eggs are four, white, with a few dark brown spots at the great end.

These birds, associating in flocks of twenty or thirty

individuals, are found in the depth of the pine Barrens; and are easily known by their manner of rising from the ground, and alighting on the body of the tree. They also often glean among the topmost boughs of the pine trees, hanging, head downwards, like the titmouse.

124. *SYLVIA CÆRULEA*, LATH. — *MUSCICAPA CÆRULEA*, WILS.

SMALL BLUE GRAY FLYCATCHER.

WILSON, PLATE XVIII. FIG. V.

THIS diminutive species, but for the length of the tail, would rank next to our humming bird in magnitude. It is a very dexterous flycatcher, and has also something of the manners of the titmouse, with whom, in early spring, and fall, it frequently associates. It arrives in Pennsylvania, from the south, about the middle of April; and, about the beginning of May, builds its nest, which it generally fixes among the twigs of a tree, sometimes at the height of ten feet from the ground, sometimes fifty feet high, on the extremities of the tops of a high tree in the woods. This nest is formed of very slight and perishable materials, the husks of buds, stems of old leaves, withered blossoms of weeds, down from the stalks of fern, coated on the outside with gray lichen, and lined with a few horse hairs. Yet in this frail receptacle, which one would think scarcely sufficient to admit the body of the owner, and sustain even its weight, does the female cow bird venture to deposit her egg; and to the management of these pigmy nurses leaves the fate of her helpless young. The motions of this little bird are quick; he seems always on the look-out for insects; darts about from one part of the tree to another, with hanging wings and erected tail, making a feeble chirping, *tsee, tsee*, no louder than a mouse. Though so small in itself, it is ambitious of hunting on the highest branches, and is seldom seen among the humbler thickets. It remains with us until the 20th or 28th of September; after which we see no more of it till the succeeding spring.

I observed this bird near Savannah, in Georgia, early in March; but it does not winter even in the southern parts of that State.

The length of this species is four inches and a half; extent, six and a half; front, and line over the eye, black; bill, black, very slender, overhanging at the tip, notched, broad, and furnished with bristles at the base; the colour of the plumage above is a light bluish gray, bluest on the head, below, bluish white; tail, longer than the body, a little rounded, and black, except the exterior feathers, which are almost all white, and the next two also tipped with white; tail-coverts, black; wings, brownish black, some of the secondaries next the body edged with white; legs, extremely slender, about three-fourths of an inch long, and of a bluish black colour. The female is distinguished by wanting the black line round the front.

The food of this bird is small winged insects, and their larvæ, but particularly the former, which it seems almost always in pursuit of.

125. *SYLVEA PARIA*, LATHAM. — *CERTHIA MACULATA*, WILSON.

BLACK AND WHITE CREEPER.

WILSON, PLATE XIX. FIG. III.

THIS nimble and expert little species seldom perches on the small twigs; but circumambulates the trunk and larger branches, in quest of ants and other insects, with admirable dexterity. It arrives in Pennsylvania, from the south, about the 20th of April; the young begin to fly early in July; and the whole tribe abandon the country about the beginning of October. Sloane describes this bird as an inhabitant of the West India islands, where it probably winters. It was first figured by Edwards from a dried skin sent him by Mr William Bartram, who gave it its present name.

The genus of creepers comprehends about thirty different species, many of which are richly adorned with gorgeous plumage; but, like their congenial tribe,

the woodpeckers, few of them excel in song; their tongues seem better calculated for extracting noxious insects from the bark of trees, than for trilling out sprightly airs; as the hardened hands of the husbandman are better suited for clearing the forest or guiding the plough, than dancing among the keys of a forte-piano. Which of the two is the most honourable and useful employment is not difficult to determine. Let the farmer, therefore, respect this little bird for its useful qualities, in clearing his fruit and forest trees from destructive insects, though it cannot serenade him with its song.

The length of this species is five inches and a half; extent, seven and a half; crown, white, bordered on each side with a band of black, which is again bounded by a line of white passing over each eye; below this is a large spot of black covering the ear feathers; chin and throat, black; wings, the same, crossed transversely by two bars of white; breast and back, streaked with black and white; tail, upper, and also under coverts, black, edged, and bordered with white; belly, white; legs and feet, dirty yellow; hind claw the longest, and all very sharp pointed; bill, a little compressed side-wise, slightly curved, black above, paler below; tongue, long, fine pointed, and horny at the extremity. These last circumstances, joined to its manners, characterize it, decisively, as a creeper.

The female, and young birds of the first year, want the black on the throat, having that part of a grayish white.

126. *SYLVIA PETECHIA*, LATHAM AND WILSON.

YELLOW RED-POLL WARBLER.

WILSON, PLATE XXVIII. FIG. IV. — ADULT MALE IN SPRING.

THIS delicate little bird arrives in Pennsylvania early in April, while the maples are yet in blossom, among the branches of which it may generally be found at that season, feeding on the stamina of the flowers, and

on small winged insects. Low swampy thickets are its favourite places of resort. It is not numerous, and its notes are undeserving the name of song. It remains with us all summer; but its nest has hitherto escaped me. It leaves us late in September. Some of them probably winter in Georgia, having myself shot several late in February, on the borders of the Savannah river.

Length of the yellow red-poll, five inches; extent, eight; line over the eye, and whole lower parts, rich yellow; breast, streaked with dull red; upper part of the head, reddish chestnut, which it loses in winter; back, yellow olive, streaked with dusky; rump, and tail-coverts, greenish yellow; wings, deep blackish brown, exteriorly edged with olive; tail, slightly forked, and of the same colour as the wings.

The female wants the red cap; and the yellow of the lower parts is less brilliant; the streaks of red on the breast are also fewer and less distinct.

127. *SYLPIA FUSILLA*, WILSON. — *S. AMERICANA*, LATHAM.

BLUE YELLOW-BACK WARBLER.

WILSON, PLATE XXXVIII. FIG. III.

THE habits of this bird partake something of the titmouse; but the form of its bill is decisively that of the *sylvia* genus. It is remarkable for frequenting the tops of the tallest trees, where it feeds on the small winged insects and caterpillars that infest the young leaves and blossoms. It has a few feeble chirruping notes, scarcely loud enough to be heard at the foot of the tree. It visits Pennsylvania from the south, early in May; is very abundant in the woods of Kentucky; and is also found in the northern parts of the State of New York. Its nest I have never yet met with.

This little species is four inches and a half long, and six inches and a half in breadth; the front, and between the bill and eyes, is black; the upper part of the head and neck, a fine Prussian blue; upper part of the back, brownish yellow; lower, and rump, pale blue; wings

and tail, black; the former crossed with two bars of white, and edged with blue; the latter marked on the inner webs of the three exterior feathers with white, a circumstance common to a great number of the genus; immediately above and below the eye, is a small touch of white; the upper mandible is black; the lower, as well as the whole throat and breast, rich yellow, deepening about its middle to orange red, and marked on the throat with a small crescent of black; on the edge of the breast is a slight touch of rufous; belly and vent, white; legs, dark brown; feet, dirty yellow. The female wants both the black and orange on the throat and breast; the blue, on the upper parts, is also of a duller tint.

128. *SYLVIA AGILIS*, WILSON. — CONNECTICUT WARBLER.

WILSON, PLATE XXXIX. FIG. IV.

THIS is a new species, first discovered in the state of Connecticut, and twice since met with in the neighbourhood of Philadelphia. As to its notes or nest, I am altogether unacquainted with them. The different specimens I have shot corresponded very nearly in their markings; two of these were males, and the other undetermined, but conjectured also to be a male. It was found in every case among low thickets, but seemed more than commonly active, not remaining for a moment in the same position. In some of my future rambles I may learn more of this solitary species.

Length, five inches and three quarters; extent, eight inches; whole upper parts, a rich yellow olive; wings, dusky brown, edged with olive; throat, dirty white, or pale ash; upper part of the breast, dull greenish yellow; rest of the lower parts, a pure rich yellow; legs, long, slender, and of a pale flesh colour; round the eye, a narrow ring of yellowish white; upper mandible, pale brown; lower, whitish; eye, dark hazel.

Since writing the above, I have shot two specimens of a bird which, in every particular, agrees with the

above, except in having the throat of a dull buff colour, instead of pale ash; both of these were females; and I have little doubt, but they are of the same species with the present, as their peculiar activity seemed exactly similar to the males above described.

These birds do not breed in the lower parts of Pennsylvania, though they probably may be found in summer in the alpine swamps and northern regions, in company with a numerous class of the same tribe that breed in these unfrequented solitudes.

129. *SYLZIA PUSILLA*, WILSON. — *SYLZIA SPHAGNOSA*, BONAP.

PINE SWAMP WARBLER.

WILSON, PLATE XLIII. FIG. IV.

THIS little bird is, for the first time, described. Its favourite haunts are in the deepest and gloomiest pine and hemlock swamps of our mountainous regions, where every tree, trunk, and fallen log, is covered with a luxuriant coat of moss, that even mantles over the surface of the ground, and prevents the sportsman from avoiding a thousand holes, springs, and swamps, into which he is incessantly plunged. Of the nest of this bird I am unable to speak. I found it associated with the Blackburnian warbler, the golden-crested wren, ruby-crowned wren, yellow-rump, and others of that description, in such places as I have described, about the middle of May. It seemed as active in flycatching as in searching for other insects, darting nimbly about among the branches, and flirting its wings; but I could not perceive that it had either note or song. I shot three, one male and two females. I have no doubt that they breed in those solitary swamps, as well as many other of their associates.

The pine swamp warbler is four inches and a quarter long, and seven inches and a quarter in extent; bill, black, not notched, but furnished with bristles; upper parts, a deep green olive, with slight bluish reflections, particularly on the edges of the tail and on the head; wings, dusky, but so broadly edged with olive green as

to appear wholly of that tint; immediately below the primary coverts, there is a single triangular spot of yellowish white; no other part of the wings is white; the three exterior tail-feathers, with a spot of white on their inner vanes; the tail is slightly forked; from the nostrils over the eye, extends a fine line of white, and the lower eyelid is touched with the same tint; lores, blackish; sides of the neck and auriculars, green olive; whole lower parts, pale yellow ochre, with a tinge of greenish; duskiest on the throat; legs, long and flesh coloured.

The plumage of the female differs in nothing from that of the male.

130. *SYLVIA AUTUMNALIS*, WILSON. — AUTUMNAL WARBLER.

WILSON, PLATE XXIII. FIG. IV.

THIS plain little species regularly visits Pennsylvania from the north in the month of October, gleaning among the willow leaves; but, what is singular, is rarely seen in spring. From the 1st to the 15th of October, they may be seen in considerable numbers, almost every day, in gardens, particularly among the branches of the weeping willow, and seem exceedingly industrious. They have some resemblance, in colour, to the pine-creeping warbler; but do not run along the trunk like that bird, neither do they give a preference to the pines. They are also less. After the first of November, they are no longer to be found, unless the season be uncommonly mild. These birds, doubtless, pass through Pennsylvania in spring, on their way to the north; but either make a very hasty journey, or frequent the tops of the tallest trees, for I have never yet met with one of them in that season, though, in October, I have seen more than a hundred in an afternoon's excursion.

Length, four inches and three quarters; breadth, eight inches; whole upper parts, olive green, streaked on the back with dusky stripes; tail-coverts, ash, tipped with olive; tail, black, edged with dull white; the

three exterior feathers, marked near the tip with white; wings, deep dusky, edged with olive, and crossed with two bars of white; primaries also tipped, and three secondaries next the body edged, with white; upper mandible, dusky brown; lower, as well as the chin and breast, dull yellow; belly and vent, white; legs, dusky brown; feet and claws, yellow; a pale yellow ring surrounds the eye. The males of these birds often warble out some low, but very sweet notes, while searching among the leaves in autumn.

131. *SYLVIA MINUTA*, BONAPARTE. — *MUSCICAPA MINUTA*, WILS.

SMALL-HEADED FLYCATCHER.

WILSON, PLATE I. FIG. V.

THIS very rare species is the only one I have met with. It was shot on the 24th of April, in an orchard, and was remarkably active, running, climbing, and darting about among the opening buds and blossoms with extraordinary agility. From what quarter of the United States or of North America it is a wanderer, I am unable to determine, having never before met with an individual of the species. Its notes and manner of breeding are also alike unknown to me. This was a male: it measured five inches long, and eight and a quarter in extent; the upper parts were dull yellow olive; the wings, dusky brown, edged with lighter; the greater and lesser coverts, tipped with white; the lower parts, dirty white, stained with dull yellow, particularly on the upper parts of the breast; the tail, dusky brown, the two exterior feathers marked, like those of many others, with a spot of white on the inner vanes; head, remarkably small; bill, broad at the base, furnished with bristles, and notched near the tip; legs, dark brown; feet, yellowish; eye, dark hazel.

Since writing the above, I have shot several individuals of this species in various quarters of New Jersey, particularly in swamps. They all appear to be nearly alike in plumage. Having found them there in June, there is no doubt of their breeding in that State, and,

probably, in such situations far to the southward; for many of the southern summer birds that rarely visit Pennsylvania, are yet common to the swamps and pine woods of New Jersey. Similarity of soil and situation, of plants and trees, and, consequently, of fruits, seeds, insects, &c. are, doubtless, their inducements. The summer red bird, great Carolina wren, pine-creeping warbler, and many others, are rarely seen in Pennsylvania, or to the northward, though they are common in many parts of West Jersey.

SUBGENUS II. — *DACNIS*, *CUP.* (*CASSICUS*.)

132. *SYLVIA PROTONOTARIUS*, LATHAM AND WILSON.

PROTHONOTARY WARBLER.

WILSON, PLATE XXIV. FIG. III.

THIS is an inhabitant of Lower Louisiana, and a passenger from the south; it seldom approaches the house or garden, but keeps among the retired, deep, and dark swampy woods, through which it flits nimbly in search of small caterpillars, uttering every now and then a few screaming notes, scarcely worthy of notice. They are abundant in the Mississippi and New Orleans territories, near the river, but are rarely found on the high ridges inland.

From the peculiar form of its bill, being roundish and remarkably pointed, this bird might, with propriety, be classed as a subgenera, or separate family, including several others, viz. the blue-winged yellow warbler, the gold-crowned warbler, the golden-winged warbler, the worm-eating warbler, and a few more. The bills of all these correspond nearly in form and pointedness, being generally longer, thicker at the base, and more round than those of the genus *sylvia*, generally. The first mentioned species, in particular, greatly resembles this in its general appearance; but the bill of the prothonotary is rather stouter, and the yellow much deeper, extending farther on the back; its manners, and the country it inhabits, are also different.

This species is five inches and a half long, and eight and a half in extent; the head, neck, and whole lower parts, (except the vent,) are of a remarkably rich and brilliant yellow, slightly inclining to orange; vent, white; back, scapulars, and lesser wing-coverts, yellow olive; wings, rump, and tail-coverts, a lead blue; interior vanes of the former, black; tail nearly even, and black, broadly edged with blue; all the feathers, except the two middle ones, are marked on their inner vanes, near the tip, with a spot of white; bill, long, stout, sharp-pointed, and wholly black; eyes, dark hazel; legs and feet, a leaden grey. The female differs in having the yellow and blue rather of a duller tint; the inferiority, however, is scarcely noticeable.

ILL. *SYLVIA FERMIFORA*, LATHAM AND WILSON.

WORM-EATING WARBLER.

WILSON, PLATE XXIV. FIG. IV.

THIS is one of the nimblest species of its whole family, inhabiting the same country with the preceding, but extending its migrations much farther north. It arrives in Pennsylvania about the middle of May, and leaves us in September. I have never yet met with its nest, but have seen them feeding their young about the 25th of June. This bird is remarkably fond of spiders, darting about wherever there is a probability of finding these insects. If there be a branch broken, and the leaves withered, it shoots among them in preference to every other part of the tree, making a great rustling, in search of its prey. I have often watched its manœuvres while thus engaged, and flying from tree to tree in search of such places. On dissection, I have uniformly found their stomachs filled with spiders or caterpillars, or both. Its note is a feeble chirp, rarely uttered.

The worm-eater is five inches and a quarter in length, and eight inches in extent; back, tail, and wings, a fine clear olive; tips and inner vanes of the wing-quills,

a dusky brown; tail, slightly forked, yet the exterior feathers are somewhat shorter than the middle ones; head and whole lower parts, a dirty buff; the former marked with four streaks of black, one passing from each nostril, broadening as it descends the hind head; and one from the posterior angle of each eye; the bill is stout, straight, pretty thick at the base, roundish, and tapering to a fine point; no bristles at the side of the mouth; tongue, thin, and lacerated at the tip; the breast is most strongly tinged with the orange buff; vent, waved with dusky olive; bill, blackish above, flesh coloured below; legs and feet, a pale clay colour; eye, dark hazel. The female differs very little in colour from the male.

On this species Mr Pennant makes the following remarks:—"Does not appear in Pennsylvania till July, in its passage northward. Does not return the same way, but is supposed to go beyond the mountains which lie to the west. This seems to be the case with all the transient vernal visitants of Pennsylvania."* That a small bird should permit the whole spring, and half of the summer, to pass away before it thought of "passing to the north to breed," is a circumstance, one should think, would have excited the suspicion of so discerning a naturalist as the author of *Arctic Zoology*, as to its truth. I do not know that this bird breeds to the northward of the United States. As to their returning home by "the country beyond the mountains," this must, doubtless, be for the purpose of finishing the education of their striplings here, as is done in Europe, by making the grand tour. This, by the by, would be a much more convenient retrograde route for the ducks and geese; as, like the Kentuckians, they could take advantage of the current of the Ohio and Mississippi, to float down to the southward. Unfortunately, however, for this pretty theory, all our vernal visitants with which I am acquainted, are contented to plod home by the same regions through which they advanced, not even excepting the geese.

* *Arctic Zoology*, p. 406.

134. *SYLVIA SOLITARIA*, WILSON.

BLUE-WINGED YELLOW WARBLER.

WILSON, PLATE XV. FIG. IV.

THIS bird has been mistaken for the pine creeper of Catesby. It is a very different species. It comes to us early in May from the south; haunts thickets and shrubberies, searching the branches for insects; is fond of visiting gardens, orchards, and willow trees, of gleaning among blossoms, and currant bushes; and is frequently found in very sequestered woods, where it generally builds its nest. This is fixed in a thick bunch or tussock of long grass, sometimes sheltered by a brier bush. It is built in the form of an inverted cone, or funnel, the bottom thickly bedded with dry beech leaves, the sides formed of the dry bark of strong weeds, lined within with fine dry grass. These materials are not placed in the usual manner, circularly, but shelving downwards on all sides from the top; the mouth being wide, the bottom very narrow, filled with leaves, and the eggs or young occupying the middle. The female lays five eggs, pure white, with a few very faint dots of reddish near the great end; the young appear the first week in June. I am not certain whether they raise a second brood in the same season.

I have met with several of these nests, always in a retired, though open part of the woods, and very similar to each other.

The first specimen of this bird taken notice of by European writers was transmitted, with many others, by Mr William Bartram to Mr Edwards, by whom it was drawn and etched in the 277th plate of his *Ornithology*. In his remarks on this bird, he seems at a loss to determine whether it is not the pine creeper of Catesby; * a difficulty occasioned by the very imperfect colouring and figure of Catesby's bird. The pine creeper,

* CATESBY, *Car.* vol. i, pl. 61.

however, is a much larger bird; is of a dark yellow olive above, and orange yellow below; has all the habits of a creeper, alighting on the trunks of the pine trees, running nimbly round them, and, according to Mr Abbot, builds a pensive nest. I observed thousands of them in the pine woods of Carolina and Georgia, where they are resident, but have never met with them in any part of Pennsylvania.

This species is five inches and a half long, and seven and a half broad; hind head, and whole back, a rich green olive; crown and front, orange yellow; whole lower parts, yellow, except the vent feathers, which are white; bill, black above, lighter below; lores, black; the form of the bill approximates a little to that of the finch; wings and tail, deep brown, broadly edged with pale slate, which makes them appear wholly of that tint, except at the tips; first and second row of coverts tipped with white slightly stained with yellow; the three exterior tail feathers have their inner vanes nearly all white; legs, pale bluish; feet, dirty yellow; the two middle tail feathers are pale slate. The female differs very little in colour from the male.

This species very much resembles the prothonotary warbler of Pennant and Buffon; the only difference I can perceive, on comparing specimens of each, is, that the yellow of the prothonotary is more of an orange tint, and the bird somewhat larger.

135. *SYLVIA CHRYSOPTERA*, LATHAM AND WILSON.

GOLDEN-WINGED WARBLER.

WILSON, PLATE XV. FIG. VI. — MALE.

THIS is a spring passenger through the United States to the north. From the particular form of its bill, it ought rather to be separated from the warblers; or, along with several others of the same kind, might be arranged as a subgenera, or particular family of that tribe, which might with propriety be called worm-eaters, the *motacilla vermivora* of Turton having the bill

exactly of this form. The habits of these birds partake a good deal of those of the titmouse; and, in their language and action, they very much resemble them. All that can be said of this species is, that it appears in Pennsylvania for a few days, about the last of April or beginning of May, darting actively among the young leaves and opening buds, and is rather a scarce species.

The golden-winged warbler is five inches long, and seven broad; the crown, golden yellow; the first and second row of wing-coverts, of the same rich yellow; the rest of the upper parts, a deep ash, or dark slate colour; tail, slightly forked, and, as well as the wings, edged with whitish; a black band passes through the eye, and is separated from the yellow of the crown by a fine line of white; chin and throat, black, between which and that passing through the eye runs a strip of white; belly and vent, white; bill, black, gradually tapering to a sharp point; legs, dark ash; irides, hazel.

Pennant has described this species twice, first, as the golden-winged warbler, and, immediately after, as the yellow-fronted warbler.

PL. *SYLVIA PEREGRINA*, WILSON. — TENNESEE WARBLER.

WILSON, PLATE XXV. FIG. II.

THIS plain little bird has hitherto remained unknown. I first found it on the banks of Cumberland river, in the State of Tennessee, and suppose it to be rare, having since met with only two individuals of the same species. It was hunting nimbly among the young leaves, and, like all the rest of the family of worm-eaters, to which, by its bill, it evidently belongs, seemed to partake a good deal of the habits of the titmouse. Its notes were few and weak; and its stomach, on dissection, contained small green caterpillars, and a few winged insects.

As this species is so very rare in the United States, it is most probably a native of a more southerly climate, where it may be equally numerous with any of the rest of its genus. The small cerulean warbler, which, in

Pennsylvania, and almost all over the Atlantic States, is extremely rare, I found the most numerous of its tribe in Tennessee and West Florida; and the Carolina wren, which is also scarce to the northward of Maryland, is abundant through the whole extent of country from Pittsburg to New Orleans.

Particular species of birds, like different nations of men, have their congenial climes and favourite countries; but wanderers are common to both; some in search of better fare, some of adventure, others led by curiosity, and many driven by storms and accident.

The Tennessee warbler is four inches and three quarters long, and eight inches in extent; the back, rump, and tail-coverts, are of a rich yellow olive; lesser wing-coverts, the same; wings, deep dusky, edged broadly with yellow olive; tail, forked, olive, relieved with dusky; cheeks and upper part of the head, inclining to light bluish, and tinged with olive; line from the nostrils over the eye, pale yellow, fading into white; throat and breast, pale cream colour; belly and vent, white; legs, purplish brown; bill, pointed, and thicker at the base than those of the *sylvia* genus generally are; upper mandible, dark dusky, lower, somewhat paler; eye, hazel.

The female differs little, in the colour of her plumage, from the male; the yellow line over the eye is more obscure, and the olive not of so rich a tint.

137. *SYLVIA RUBRICAPILLA*, WILSON. — NASHVILLE WARBLER.

WILSON, PLATE XXVII. FIG. III.

THE very uncommon notes of this little bird were familiar to me for several days before I succeeded in obtaining it. These notes very much resembled the breaking of small dry twigs, or the striking of small pebbles of different sizes smartly against each other for six or seven times, and loud enough to be heard at the distance of thirty or forty yards. It was some time before I could ascertain whether the sound proceeded from a bird or an insect. At length I discovered the bird,

and was not a little gratified at finding it an entire new and hitherto undescribed species. I was also fortunate enough to meet afterwards with two others exactly corresponding with the first, all of them being males. These were shot in the State of Tennessee, not far from Nashville. It had all the agility and active habits of its family, the worm-eaters.

The length of this species is four inches and a half, breadth, seven inches; the upper parts of the head and neck, light ash; a little inclining to olive; crown, spotted with deep chestnut in small touches; a pale yellowish ring round the eye; whole lower parts, vivid yellow, except the middle of the belly, which is white; back, yellow olive, slightly skirted with ash; rump and tail-coverts, rich yellow olive; wings, nearly black, broadly edged with olive; tail, slightly forked, and very dark olive; legs, ash; feet, dirty yellow; bill, tapering to a fine point, and dusky ash; no white on wings or tail; eye, hazel.

GENUS XXII.—*SAXICOLA*, BECHST.

138. *SAXICOLA SIALIS*, BONAPARTE.—*SYLVIA SIALIS*, WILSON.

BLUEBIRD.

WILSON, PL. III. FIG. III.—ADULT MALE.—EDINBURGH COLLEGE MUSEUM.

THE pleasing manners, and sociable disposition, of this little bird, entitle him to particular notice. As one of the first messengers of spring, bringing the charming tidings to our very doors, he bears his own recommendation always along with him, and meets with a hearty welcome from every body.

Though generally accounted a bird of passage, yet, so early as the middle of February, if the weather be open, he usually makes his appearance about his old haunts, the barn, orchard, and fence posts. Storms and deep snows sometimes succeeding, he disappears for a time; but about the middle of March is again seen, accompanied by his mate, visiting the box in the garden,

or the hole in the old apple tree, the cradle of some generations of his ancestors. "When he first begins his amours," says a curious and correct observer, "it is pleasing to behold his courtship, his solicitude to please and to secure the favour of his beloved female. He uses the tenderest expressions, sits close by her, caresses and sings to her his most endearing warblings. When seated together, if he espies an insect delicious to her taste, he takes it up, flies with it to her, spreads his wing over her, and puts it in her mouth."* If a rival makes his appearance, (for they are ardent in their loves,) he quits her in a moment, attacks and pursues the intruder as he shifts from place to place, in tones that bespeak the jealousy of his affection, conducts him, with many reproofs, beyond the extremities of his territory, and returns to warble out his transports of triumph beside his beloved mate. The preliminaries being thus settled, and the spot fixed on, they begin to clean out the old nest, and the rubbish of the former year, and to prepare for the reception of their future offspring. Soon after this, another sociable little pilgrim, (*motacilla domestica*, house wren;) also arrives from the south, and, finding such a snug berth pre-occupied, shews his spite, by watching a convenient opportunity, and, in the absence of the owner, popping in and pulling out sticks; but takes special care to make off as fast as possible.

The female lays five, and sometimes six eggs, of a pale blue colour; and raises two, and sometimes three brood in a season; the male taking the youngest under his particular care while the female is again sitting. Their principal food are insects, particularly large beetles, and other hard-shelled sorts, that lurk among old, dead, and decaying trees. Spiders are also a favourite repast with them. In the fall, they occasionally regale themselves on the berries of the sour gum; and, as winter approaches, on those of the red cedar, and on the fruit of a rough hairy vine that runs up and cleaves fast to the

* Letter from Mr William Bartram to the author.

trunks of trees. Ripe persimmons is another of their favourite dishes, and many other fruits and seeds which I have found in their stomachs at that season, which, being no botanist, I am unable to particularize. They are frequently pestered with a species of tape worm, some of which I have taken from their intestines of an extraordinary size, and, in some cases, in great numbers. Most other birds are also plagued with these vermin, but the bluebird seems more subject to them than any I know, except the woodcock. An account of the different species of vermin, many of which, I doubt not, are nondescripts, that infest the plumage and intestines of our birds, would of itself form an interesting publication; but, as this belongs more properly to the entomologist, I shall only, in the course of this work, take notice of some of the most remarkable.

The usual spring and summer song of the bluebird is a soft, agreeable, and oft-repeated warble, uttered with open quivering wings, and is extremely pleasing. In his motions and general character, he has great resemblance to the robin redbreast of Britain; and, had he the brown olive of that bird, instead of his own blue, could scarcely be distinguished from him. Like him, he is known to almost every child; and shews as much confidence in man by associating with him in summer, as the other by his familiarity in winter. He is also of a mild and peaceful disposition, seldom fighting or quarrelling with other birds. His society is courted by the inhabitants of the country, and few farmers neglect to provide for him, in some suitable place, a snug little summer-house, ready fitted and rent free. For this he more than sufficiently repays them by the cheerfulness of his song, and the multitude of injurious insects which he daily destroys. Towards fall, that is in the month of October, his song changes to a single plaintive note, as he passes over the yellow many-coloured woods; and its melancholy air recalls to our minds the approaching decay of the face of nature. Even after the trees are stript of their leaves, he still

lingers over his native fields, as if loth to leave them. About the middle or end of November, few or none of them are seen; but, with every return of mild and open weather, we hear his plaintive note amidst the fields, or in the air, seeming to deplore the devastations of winter. Indeed, he appears scarcely ever totally to forsake us; but to follow fair weather through all its journeyings till the return of spring.

Such are the mild and pleasing manners of the bluebird, and so universally is he esteemed, that I have often regretted that no pastoral muse has yet arisen in this western woody world, to do justice to his name, and endear him to us still more by the tenderness of verse, as has been done to his representative in Britain, the robin redbreast. A small acknowledgment of this kind I have to offer, which the reader, I hope, will excuse as a tribute to rural innocence.

When winter's cold tempests and snows are no more,
Green meadows and brown furrow'd fields re-appearing,
The fishermen hauling their shad to the shore,
And cloud-cleaving geese to the lakes are a-steering;
When first the lone butterfly flits on the wing,
When red glow the maples, so fresh and so pleasing,
O then comes the bluebird, the herald of spring!
And hails with his warblings the charms of the season.

Then loud piping frogs make the marshes to ring;
Then warm glows the sunshine, and fine is the weather;
The blue woodland flowers just beginning to spring,
And spicewood and sassafras budding together:
O then to your gardens ye housewives repair,
Your walks border up, sow and plant at your leisure;
The bluebird will chant from his box such an air,
That all your hard toils will seem truly a pleasure!

He flits through the orchard, he visits each tree,
The red flowering peach, and the apple's sweet blossoms;
He snaps up destroyers wherever they be,
And seizes the caitiffs that lurk in their bosoms;
He drags the vile grub from the corn it devours,
The worms from the webs, where they riot and welter;
His song and his services freely are ours,
And all that he asks is—in summer a shelter.

The ploughman is pleased when he gleans in his train,
Now searching the furrows—now mounting to cheer him ;
The gard'ner delights in his sweet, simple strain,
And leans on his spade to survey and to hear him ;
The slow ling'ring schoolboys forget they'll be chid,
While gazing intent as he warbles before them
In mantle of sky-blue, and bosom so red,
That each little loiterer seems to adore him.

When all the gay scenes of the summer are o'er,
And autumn slow enters so silent and sallow,
And millions of warblers, that charm'd us before,
Have fled in the train of the sun-seeking swallow ;
The bluebird, forsaken, yet true to his home,
Still lingers, and looks for a milder to-morrow,
Till forced by the horrors of winter to roam,
He sings his adieu in a lone note of sorrow.

While spring's lovely season, serene, dewy, warm,
The green face of earth, and the pure blue of heaven,
Or love's native music have influence to charm,
Or sympathy's glow to our feelings are given,
Still dear to each bosom the bluebird shall be ;
His voice, like the thrillings of hope, is a treasure ;
For, through bleakest storms, if a calm he but see,
He comes to remind us of sunshine and pleasure !

The bluebird, in summer and fall, is fond of frequenting open pasture fields ; and there perching on the stalks of the great mullein, to look out for passing insects. A whole family of them are often seen, thus situated, as if receiving lessons of dexterity from their more expert parents, who can espy a beetle crawling among the grass, at a considerable distance ; and, after feeding on it, instantly resume their former position. But whoever informed Dr Latham, that “ this bird is never seen on trees, though it makes its nest in the holes of them !” * might as well have said, that the Americans are never seen in the streets, though they build their houses by the sides of them. For what is there in the construction of the feet and claws of this bird to prevent it from perching ? Or what sight more common to an inhabitant of this country than the blue-

* *Synopsis*, vol. ii, p. 446—40.

bird perched on the top of a peach or apple tree ; or among the branches of those reverend broad-armed chestnut trees, that stand alone in the middle of our fields, bleached by the rains and blasts of ages ?

The bluebird is six inches and three quarters in length, the wings remarkably full and broad ; the whole upper parts are of a rich sky blue, with purple reflections ; the bill and legs are black ; inside of the mouth and soles of the feet, yellow, resembling the colour of a ripe persimmon ; the shafts of all the wing and tail-feathers are black ; throat, neck, breast, and sides, partially under the wings, chestnut ; wings, dusky black at the tips ; belly and vent, white ; sometimes the secondaries are exteriorly light brown, but the bird has in that case not arrived at his full colour. The female is easily distinguished by the duller cast of the back, the plumage of which is skirted with light brown, and by the red on the breast being much fainter, and not descending near so low as in the male ; the secondaries also more dusky. This species is found over the whole United States ; in the Bahama Islands, where many of them winter ; as also in Mexico, Brazil, and Guinea.

Mr Edwards mentions, that the specimen of this bird which he was favoured with, was sent from the Bermudas ; and, as these islands abound with the cedar, it is highly probable that many of those birds pass from our continent thither, at the commencement of winter, to enjoy the mildness of that climate as well as their favourite food.

As the bluebird is so regularly seen in winter, after the continuance of a few days of mild and open weather, it has given rise to various conjectures as to the place of his retreat. Some supposing it to be in close, sheltered thickets, lying to the sun ; others the neighbourhood of the sea, where the air is supposed to be more temperate, and where the matters thrown up by the waves furnish him with a constant and plentiful supply of food. Others trace him to the dark recesses of hollow trees, and subterraneous caverns, where they

suppose he dozes away the winter, making, like Robinson Crusoe, occasional reconnoitring excursions from his castle, whenever the weather happens to be favourable. But, amidst the snows and severities of winter, I have sought for him in vain in the most favourable sheltered situations of the middle States; and not only in the neighbourhood of the sea, but on both sides of the mountains.* I have never, indeed, explored the depths of caverns in search of him, because I would as soon expect to meet with tulips and butterflies there, as bluebirds; but, among hundreds of woodmen, who have cut down trees of all sorts, and at all seasons, I have never heard one instance of these birds being found so immured in winter; while, in the whole of the middle and eastern States, the same general observation seems to prevail that the bluebird always makes his appearance in winter after a few days of mild and open weather. On the other hand, I have been assured by different gentlemen of respectability, who have resided in the islands of Jamaica, Cuba, and the Bahamas and Bermudas, that this very bird is common there in winter. We also find, from the works of Hernandez, Piso, and others, that it is well known in Mexico, Guinea, and Brazil; and, if so, the place of its winter retreat is easily ascertained, without having recourse to all the trumpery of holes and caverns, torpidity, hybernation, and such ridiculous improbabilities.

Nothing is more common in Pennsylvania than to see large flocks of these birds, in spring and fall, passing at considerable heights in the air; from the south in the former, and from the north in the latter season. I have seen, in the month of October, about an hour after sunrise, ten or fifteen of them descend from a great height, and settle on the top of a tall detached tree, appearing, from their silence and sedateness, to be strangers, and fatigued. After a pause of a few minutes,

* I speak of the species here generally. Solitary individuals are found, particularly among our cedar trees, sometimes in the very depth of winter.

they began to dress and arrange their plumage, and continued so employed for ten or fifteen minutes more; then, on a few warning notes being given, perhaps by the leader of the party, the whole remounted to a vast height, steering in a direct line for the southwest. In passing along the chain of the Bahamas towards the West Indies, no great difficulty can occur, from the frequency of these islands; nor even to the Bermudas, which are said to be six hundred miles from the nearest part of the continent. This may seem an extraordinary flight for so small a bird; but it is nevertheless a fact that it is performed. If we suppose the bluebird in this case to fly only at the rate of a mile per minute, which is less than I have actually ascertained him to do over land, ten or eleven hours would be sufficient to accomplish the journey; besides the chances he would have of resting places by the way, from the number of vessels that generally navigate those seas. In like manner, two days at most, allowing for numerous stages for rest, would conduct him from the remotest regions of Mexico to any part of the Atlantic States. When the natural history of that part of the continent and its adjacent isles is better known, and the periods at which its birds of passage arrive and depart, are truly ascertained, I have no doubt but these suppositions will be fully corroborated.

GENUS XXIII. — *ANTHUS*, BECHST.139. *ANTHUS SPINOLETTA*, BONAT. — *ALAUDA RUFA*, WILSON.

BROWN LARK.

WILSON, PLATE XLII. FIG. IV.

IN what particular district of the northern regions this bird breeds, I am unable to say. In Pennsylvania it first arrives from the north about the middle of October; flies in loose scattered flocks; is strongly attached to flat, newly plowed fields, commons, and such like situations; has a feeble note, characteristic of

its tribe; runs rapidly along the ground; and, when the flock takes to wing, they fly high, and generally to a considerable distance before they alight. Many of them continue in the neighbourhood of Philadelphia all winter, if the season be moderate. In the southern States, particularly in the lower parts of North and South Carolina, I found these larks in great abundance in the middle of February. Loose flocks of many hundreds were driving about from one corn field to another; and, in the low rice grounds, they were in great abundance. On opening numbers of these, they appeared to have been feeding on various small seeds with a large quantity of gravel. On the 8th of April I shot several of these birds in the neighbourhood of Lexington, Kentucky. In Pennsylvania they generally disappear, on their way to the north, about the beginning of May, or earlier. At Portland, in the district of Maine, I met with a flock of these birds in October. I do not know that they breed within the United States. Of their song, nest, eggs, &c. we have no account.

The brown lark is six inches long, and ten inches and a half in extent; the upper parts, brown olive, touched with dusky; greater coverts and next superior row, lighter; bill, black, slender; nostrils, prominent; chin and line over the eye, pale rufous; breast and belly, brownish ochre, the former spotted with black; tertials, black, the secondaries brown, edged with lighter; tail, slightly forked, black; the two exterior feathers marked largely with white; legs, dark purplish brown; hind heel, long, and nearly straight; eye, dark hazel. Male and female nearly alike. Mr Pennant says that one of these birds was shot near London.

GENUS XXIV.—*REGULUS*, VIEILL.140. *REGULUS CALENDULA*, STEPHENS.*SYLVIA CALENDULA*, WILSON. — RUBY-CROWNED WREN.

WILSON, PLATE V. FIG. III.

THIS little bird visits us early in the spring, from the south, and is generally first found among the maple blossoms, about the beginning of April. These failing, it has recourse to those of the peach, apple, and other fruit trees, partly for the tops of the sweet and slender stamina of the flowers, and partly for the winged insects that hover among them. In the middle of summer, I have rarely met with these birds in Pennsylvania; and, as they penetrate as far north as the country round Hudson's Bay, and also breed there, it accounts for their late arrival here, in fall. They then associate with the different species of titmouse, and the golden-crested wren; and are particularly numerous in the month of October, and beginning of November, in orchards, among the decaying leaves of the apple trees, that, at that season, are infested with great numbers of small black-winged insects, among which they make great havoc. I have often regretted the painful necessity one is under of taking away the lives of such inoffensive, useful little creatures, merely to obtain a more perfect knowledge of the species; for they appear so busy, so active and unsuspecting, as to continue searching about the same twig, even after their companions have been shot down beside them. They are more remarkably so in autumn, which may be owing to the great number of young and inexperienced birds which are then among them; and frequently, at this season, I have stood under the tree, motionless, to observe them, while they gleaned among the low branches sometimes within a foot or two of my head. They are extremely adroit in catching their prey; have only at times a feeble chirp; visit the tops of the

tallest trees, as well as the lowest bushes ; and continue generally for a considerable time among the branches of the same tree, darting about from place to place ; appearing, when on the top of a high maple, no bigger than humble bees.

The ruby-crowned wren is four inches long, and six in extent ; the upper parts of the head, neck, and back, are of a fine greenish olive, with a considerable tinge of yellow ; wings and tail, dusky purplish brown, exteriorly edged with yellow olive ; secondaries, and first row of wing-coverts, edged and tipped with white, with a spot of deep purplish brown across the secondaries, just below their coverts ; the hind head is ornamented with an oblong lateral spot of vermilion, usually almost hid by the other plumage ; round the eye, a ring of yellowish white ; whole under parts, of the same tint ; legs, dark brown ; feet and claws, yellow ; bill, slender, straight, not notched, furnished with a few black hairs at the base ; inside of the mouth, orange. The female differs very little in its plumage from the male, the colours being less lively, and the bird somewhat less. Notwithstanding my utmost endeavours, I have never been able to discover their nest ; though, from the circumstance of having found them sometimes here in summer, I am persuaded that they occasionally breed in Pennsylvania ; but I know several birds, no larger than this, that usually build on the extremities of the tallest trees in the woods ; which I have discovered from their beginning before the leaves are out ; many others, no doubt, choose similar situations ; and, should they delay building until the woods are thickened with leaves, it is no easy matter to discover them. In fall, they are so extremely fat, as almost to dissolve between the fingers as you open them ; owing to the great abundance of their favourite insects at that time.

141. *REGULUS CRISTATUS*, RAY.—*STYLIA REGULUS*, WILSON.

GOLDEN-CRESTED WREN.

WILSON, PLATE VIII. FIG. II. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS diminutive species is a frequent associate of the brown creeper, and seems to be almost a citizen of the world at large, having been found not only in North and South America, the West Indies, and Europe, but even in Africa and India. The specimen from Europe, in Mr Peale's collection, appears to be in nothing specifically different from the American; and the very accurate description given of this bird, by the Count de Buffon, agrees in every respect with ours. Here, as in Europe, it is a bird of passage, making its first appearance in Pennsylvania early in April, among the blossoms of the maple, often accompanied by the ruby-crowned wren, which, except in the markings of the head, it very much resembles. It is very frequent among evergreens, such as the pine, spruce, cedar, juniper, &c. and in the fall, is generally found in company with the two species of titmouse, brown creeper, and small spotted woodpecker. It is an active, unsuspicious, and diligent little creature, climbing and hanging, occasionally, among the branches, and sometimes even on the body of the tree, in search of the larvæ of insects attached to the leaves and stems, and various kinds of small flies, which it frequently seizes on wing. As it retires still farther north to breed, it is seldom seen in Pennsylvania from May to October; but is then numerous in orchards, feeding among the leaves of the apple trees, which, at that season, are infested with vast numbers of small black-winged insects. Its chirp is feeble, not much louder than that of a mouse; though, where it breeds, the male is said to have a variety of sprightly notes. It builds its nest frequently on the branches of an evergreen, covers it entirely round, leaving a small hole on one side for entrance, forming it outwardly of moss and lichens, and lining it warmly with down.

The female lays six or eight eggs, pure white, with a few minute specks of dull red. Dr Latham, on whose authority this is given, observes, "it seems, to prefer the oak trees in preference to all others. I have more than once seen a brood of these in a large oak, in the middle of a lawn, the whole little family of which, as soon as able, were in perpetual motion, and gave great pleasure to many who viewed them. The nest of one of these has also been made in a garden on a fir tree; it was composed of moss, the opening on one side, in shape roundish; it was lined with a downy substance, mixed with small filaments. It is said to sing very melodiously, very like the common wren, but weaker."* In Pennsylvania, they continue with us from October to December, and sometimes to January.

The golden-crested wren is four inches long, and six inches and a half in extent; back, a fine yellow olive; hind head and sides of the neck, inclining to ash; a line of white passes round the frontlet, extending over and beyond the eye on each side; above this, another line or strip of deep black passes in the same manner, extending farther behind; between these two strips of black, lies a bed of glossy golden yellow, which, being parted a little, exposes another of a bright flame colour, extending over the whole upper part of the head; when the little warbler flits among the branches, in pursuit of insects, he opens and shuts this golden ornament with great adroitness, which produces a striking and elegant effect; lores, marked with circular points of black; below the eye, is a rounding spot of dull white; from the upper mandible to the bottom of the ear-feathers runs a line of black, accompanied by another of white, from the lower mandible; breast, light cream colour; sides under the wings, and vent, the same; wings, dusky, edged exteriorly with yellow olive; greater wing-coverts, tipped with white, immediately below which, a spot of black extends over

* *Synopsis*, ii, 509.

several of the secondaries ; tail, pretty long, forked, dusky, exterior vanes broadly edged with yellow olive ; legs, brown, feet and claws, yellow ; bill, black, slender, straight, evidently of the *muscipapa* form, the upper mandible being notched at the point, and furnished at the base with bristles, that reach half way to its point ; but what seems singular and peculiar to this little bird, the nostril on each side is covered by a single feather, that much resembles the antennæ of some butterflies, and is half the length of the bill. Buffon has taken notice of the same in the European. Inside of the mouth, a reddish orange ; claws, extremely sharp, the hind one the longest. In the female, the tints and markings are nearly the same, only the crown or crest is pale yellow. These birds are numerous in Pennsylvania, in the month of October, frequenting bushes that overhang streams of water, alders, briars, and particularly apple trees, where they are eminently useful in destroying great numbers of insects, and are at that season extremely fat.

GENUS XXV. — *TROGLODYTES*, VIEILL.

SURGENUS I. — *TROGLODYTES*, VIEILL.

142. *TROGLODYTES ŒDON*, VIEILL.

SYLVIA DOMESTICA, WILSON. — HOUSE WREN.

WILSON, PLATE VIII. FIG. III.

THIS well known and familiar bird arrives in Pennsylvania about the middle of April ; and, about the 8th or 10th of May, begins to build its nest, sometimes in the wooden cornishing under the eaves, or in a hollow cherry tree ; but most commonly in small boxes, fixed on the top of a pole, in or near the garden, to which he is extremely partial, for the great number of caterpillars and other larvæ with which it constantly supplies him. If all these conveniences are wanting, he will even put

up with an old hat, nailed on the weather boards, with a small hole for entrance; and, if even this be denied him, he will find some hole, corner, or crevice about the house, barn, or stable, rather than abandon the dwellings of man. In the month of June, a mower hung up his coat, under a shed, near the barn; two or three days elapsed before he had occasion to put it on again; thrusting his arm up the sleeve, he found it completely filled with some rubbish, as he expressed it, and, on extracting the whole mass, found it to be the nest of a wren completely finished, and lined with a large quantity of feathers. In his retreat, he was followed by the little forlorn proprietors, who scolded him with great vehemence, for thus ruining the whole economy of their household affairs. The twigs with which the outward parts of the nest are constructed are short and crooked, that they may the better hook in with one another, and the hole or entrance is so much shut up, to prevent the intrusion of snakes, or cats, that it appears almost impossible the body of the bird could be admitted; within this, is a layer of fine dried stalks of grass, and lastly feathers. The eggs are six or seven, and sometimes nine, of a red purplish flesh colour, innumerable fine grains of that tint being thickly sprinkled over the whole egg. They generally raise two brood in a season; the first about the beginning of June, the second in July.

This little bird has a strong antipathy to cats; for, having frequent occasion to glean among the currant bushes, and other shrubbery in the garden, those lurking enemies of the feathered race often prove fatal to him. A box fixed up in the window of the room where I slept, was taken possession of by a pair of wrens. Already the nest was built, and two eggs laid, when one day, the window being open, as well as the room door, the female wren, venturing too far into the room to reconnoitre, was sprung upon by grimalkin, who had planted herself there for the purpose; and, before relief could be given, was destroyed. Curious to see how the survivor would demean himself, I watched him carefully

for several days. At first he sung with great vivacity for an hour or so, but, becoming uneasy, went off for half an hour; on his return, he chanted again as before, went to the top of the house, stable, and weeping willow, that she might hear him; but seeing no appearance of her, he returned once more, visited the nest, ventured cautiously into the window, gazed about with suspicious looks, his voice sinking to a low melancholy note, as he stretched his little neck about in every direction. Returning to the box, he seemed for some minutes at a loss what to do, and soon after went off, as I thought, altogether, for I saw him no more that day. Towards the afternoon of the second day, he again made his appearance, accompanied with a new female, who seemed exceedingly timorous and shy, and who, after great hesitation, entered the box; at this moment the little widower or bridegroom seemed as if he would warble out his very life with ecstasy of joy. After remaining about half a minute in, they both flew off, but returned in a few minutes, and instantly began to carry out the eggs, feathers, and some of the sticks, supplying the place of the two latter with materials of the same sort; and ultimately succeeded in raising a brood of seven young, all of which escaped in safety.

The immense number of insects which this sociable little bird removes from the garden and fruit trees, ought to endear him to every cultivator, even if he had nothing else to recommend him; but his notes, loud, sprightly, tremulous, and repeated every few seconds with great animation, are extremely agreeable. In the heat of summer, families in the country often dine under the piazza adjoining green canopies of mantling grape vines, gourds, &c. while overhead the trilling vivacity of the wren, mingled with the warbling mimicry of the cat bird, and the distant, softened sounds of numerous other songsters, form a soul-soothing and almost heavenly music, breathing peace, innocence, and rural repose. The European who judges of the song of this species by that of his own wren, (*m. troglodytes*,) will do injustice to the former, as in strength

of tone, and execution, it is far superior, as well as the bird is in size, figure, and elegance of markings, to the European one. Its manners are also different; its sociability greater. It is no underground inhabitant; its nest is differently constructed, the number of its eggs fewer; it is also migratory; and has the tail and bill much longer. Its food is insects and caterpillars, and, while supplying the wants of its young, it destroys, on a moderate calculation, many hundreds a-day, and greatly circumscribes the ravages of these vermin. It is a bold and insolent bird against those of the titmouse or woodpecker kind that venture to build within its jurisdiction; attacking them without hesitation, though twice its size, and generally forcing them to decamp. Even the bluebird, who claims an equal, and sort of hereditary right to the box in the garden, when attacked by this little impertinent, soon relinquishes the contest, the mild placidness of his disposition not being a match for the fiery impetuosity of his little antagonist. With those of his own species who settle and build near him, he has frequent squabbles; and when their respective females are sitting, each strains his whole powers of song to excel the other. When the young are hatched, the hurry and press of business leave no time for disputing, so true it is that idleness is the mother of mischief. These birds are not confined to the country; they are to be heard on the tops of the houses in the most central parts of our cities, singing with great energy. Scarce a house or cottage in the country is without at least a pair of them, and sometimes two; but unless where there is a large garden, orchard, and numerous out-houses, it is not often the case that more than one pair reside near the same spot, owing to their party disputes and jealousies. It has been said, by a friend to this little bird, that "the esculent vegetables of a whole garden may, perhaps, be preserved from the depredations of different species of insects, by ten or fifteen pair of these small birds;"* and probably they might, were the

* BARTON'S *Fragments*, part i, p. 22.

combination practicable; but such a congregation of wrens, about one garden, is a phenomenon not to be expected but from a total change in the very nature and disposition of the species.

Though Europeans are not ignorant of the existence of this bird, they have considered it, as usual, merely as a slight variation from the original stock, (*m. troglodytes*,) their own wren; in which they are, as usual, mistaken; the length and bent form of the bill, its notes, migratory habits, long tail, and red eggs, are sufficient specific differences.

The house wren inhabits the whole of the United States, in all of which it is migratory. It leaves Pennsylvania in September; I have sometimes, though rarely, seen it in the beginning of October. It is four inches and a half long, and five and three quarters in extent, the whole upper parts of a deep brown, transversely crossed with black, except the head and neck, which is plain; throat, breast, and cheeks, light clay colour; belly and vent, mottled with black, brown, and white; tail, long, cuneiform, crossed with black; legs and feet, light clay colour; bill, black, long, slightly curved, sharp pointed, and resembling that of the genus *certhia*, considerably; the whole plumage below the surface is bluish ash; that on the rump having large round spots of white, not perceivable unless separated with the hand. The female differs very little in plumage from the male.

143. *TROGLODYTES EUROPÆUS*, LEACH. — *SYLFIA TROGLODYTES*.

WINTER WREN.

WILSON, PLATE VIII. FIG. VI. — EDINBURGH COLLEGE MUSEUM.

THIS little stranger visits us from the north in the month of October, sometimes remaining with us all the winter, and is always observed, early in spring, on his route back to his breeding place. In size, colour, song, and manners, he approaches nearer to the European wren (*m. troglodytes*) than any other species we have.

During his residence here, he frequents the projecting banks of creeks, old roots, decayed logs, small bushes, and rushes near watery places; he even approaches the farm house, rambles about the wood pile, creeping among the interstices like a mouse. With tail erect, which is his constant habit, mounted on some projecting point or pinnacle, he sings with great animation. Even in the yards, gardens, and outhouses of the city, he appears familiar, and quite at home. In short, he possesses almost all the habits of the European species. He is, however, migratory, which may be owing to the superior coldness of our continent. Never having met with the nest and eggs, I am unable to say how nearly they approximate to those of the former.

I can find no precise description of this bird, as an American species, in any European publication. Even some of our own naturalists seem to have confounded it with another very different bird, the marsh wren,* which arrives in Pennsylvania from the south in May, builds a globular or pitcher-shaped nest, which it suspends among the rushes and bushes by the river side, lays five or six eggs of a dark fawn colour, and departs again in September. But the colours and markings of that bird are very unlike those of the winter wren, and its song altogether different. The circumstance of the one arriving from the north as the other returns to the south, and *vice versa*, with some general resemblance between the two, may have occasioned this mistake. They, however, not only breed in different regions, but belong to different genera, the marsh wren being decisively a species of *certhia*, and the winter wren a true *motacilla*. Indeed we have no less than five species of these birds in Pennsylvania, that, by a superficial observer, would be taken for one and the same; but between each of which nature has drawn strong, discriminating, and indelible lines of separation. These are pointed out in their proper places.

* See Professor Barton's observations on this subject, under the Art. *Motacilla Troglodytes*? *Fragments*, &c. p. 18; *Ibid.* p. 12.

If this bird, as some suppose, retires only to the upper regions of the country, and mountainous forests, to breed, as is the case with some others, it will account for his early and frequent residence along the Atlantic coast during the severest winters; though I rather suspect that he proceeds considerably to the northward; as the snow bird, (*f. Hudsonicus*,) which arrives about the same time with the winter wren, does not even breed at Hudson's Bay, but passes that settlement in June, on his way to the northward; how much farther is unknown.

The length of the winter wren is three inches and a half, breadth, five inches; the upper parts are of a general dark brown, crossed with transverse touches of black, except the upper parts of the head and neck, which are plain; the black spots on the back terminate in minute points of dull white; the first row of wing-coverts is also marked with specks of white at the extremities of the black, and tipped minutely with black; the next row is tipped with points of white; the primaries are crossed with alternate rows of black and cream colour; inner vanes of all the quills, dusky, except the three secondaries next the body; tips of the wings, dusky; throat, line over the eye, sides of the neck, ear feathers and breast, dirty white, with minute transverse touches of a drab or clay colour; sides under the wings speckled with dark brown, black, and dirty white; belly and vent thickly mottled with sooty black, deep brown, and pure white, in transverse touches; tail, very short, consisting of twelve feathers, the exterior one on each side a quarter of an inch shorter, the rest lengthening gradually to the middle ones; legs and feet, a light clay colour, and pretty stout; bill, straight, slender, half an inch long, not notched at the point, of a dark brown or black above, and whitish below; nostril, oblong; eye, light hazel. The female wants the points of white on the wing-coverts. The food of this bird is derived from that great magazine of so many of the feathered race, insects and their larvæ, particularly,

such as inhabit watery places, roots of bushes, and piles of old timber.

It were much to be wished that the summer residence, nest, and eggs of this bird, were precisely ascertained, which would enable us to determine whether it be, what I strongly suspect it is, the same species as the common domestic wren of Britain.

SUBGENUS II. — *THRYOTHORUS*, VIEILL.

144. *TROGLODYTES LUDOVICIANUS*, BONAPARTE.

CERTHIA CAROLINIANA, WILSON. — GREAT CAROLINA WREN.

WILSON, PLATE XII. FIG. V.

THIS is another of those equivocal species that so often occur to puzzle the naturalist. The general appearance of this bird is such, that the most illiterate would at first sight call it a wren; but the common wren of Europe, and the winter wren of the United States, are both warblers, judging them according to the simple principle of Linnaeus. The present species, however, and the marsh wren, though possessing great family likeness to those above mentioned, are decisively creepers, if the bill, the tongue, nostrils, and claws, are to be the criteria by which we are to class them.

The colour of the plumage of birds is but an uncertain and inconstant guide; and though in some cases it serves to furnish a trivial or specific appellation, yet can never lead us to the generic one. I have, therefore, notwithstanding the general appearance of these birds, and the practice of former ornithologists, removed them to the genus *certhia*,* from that of *motacilla*, where they have hitherto been placed.

This bird is frequently seen, early in May, along the shores of the Delaware, and other streams that fall into it on both sides, thirty or forty miles below Philadelphia; but is rather rare in Pennsylvania. This circumstance is a little extraordinary; since, from its size and stout

* It is perhaps unnecessary to remind the reader, that the arrangement of the original edition is not followed in the present.

make, it would seem more capable of braving the rigours of a northern climate than any of the others. It can, however, scarcely be called migratory. In the depth of winter I found it numerous in Virginia along the shores and banks of the James River, and its tributary streams, and thence as far south as Savannah. I also observed it on the banks of the Ogechee; it seemed to be particularly attached to the borders of cypress swamps, deep hollows, among piles of old decaying timber, and by rivers and small creeks. It has all the restless, jerking manners of the wrens, skipping about with great nimbleuess, hopping into caves, and disappearing into holes and crevices, like a rat, for several minutes, and then reappearing in another quarter. It occasionally utters a loud, strong, and singular twitter, resembling the word *chirr-rup*, dwelling long and strongly on the first syllable; and so loud, that I at first mistook it for the red bird (*I. cardinalis*.) It has also another chant, rather more musical, like "*Sweet William, Sweet William*," much softer than the former. Though I cannot positively say, from my own observations, that it builds in Pennsylvania, and have never yet been so fortunate as to find its nest; yet, from the circumstance of having several times observed it within a quarter of a mile of the Schuylkill, in the month of August, I have no doubt that some few breed here, and think it highly probable that Pennsylvania and New York may be the northern boundaries of their visits, having sought for it in vain among the States of New England. Its food appears to consist of those insects, and their larvæ, that frequent low, damp caves, piles of dead timber, old roots, projecting banks of creeks, &c. It certainly possesses the faculty of seeing in the dark better than day birds usually do; for I have observed it exploring the recesses of caves, where a good acute eye must have been necessary to enable it to distinguish its prey.

In the southern States, as well as in Louisiana, this species is generally resident; though in summer they are more numerous, and are found rather farther north

than in winter. In this last season their chirruping is frequently heard in gardens soon after daybreak, and along the borders of the great rivers of the southern States, not far from the sea coast.

The great wren of Carolina is five inches and a quarter long, and seven broad; the whole upper parts are reddish brown, the wings and tail being barred with black; a streak of yellowish white runs from the nostril over the eye, down the side of the neck, nearly to the back; below that, a streak of reddish brown extends from the posterior part of the eye to the shoulder; the chin is yellowish white; the breast, sides, and belly, a light rust colour, or reddish buff; vent-feathers, white, neatly barred with black; in the female, plain; wing-coverts, minutely tipped with white; legs and feet, flesh coloured, and very strong; bill, three quarters of an inch long, strong, a little bent, grooved, and pointed, the upper mandible, bluish black, lower, light blue; nostrils, oval, partly covered with a prominent convex membrane; tongue, pointed and slender; eyes, hazel; tail, cuneiform, the two exterior feathers on each side three quarters of an inch shorter, whitish on their exterior edges, and touched with deeper black; the same may be said of the three outer primaries. The female wants the white on the wing-coverts; but differs little in colour from the male.

In this species I have observed a circumstance common to the house and winter wren, but which is not found in the marsh wren; the feathers of the lower part of the back, when parted by the hand, or breath, appear spotted with white, being at bottom deep ash, reddish brown at the surface, and each feather with a spot of white between these two colours. This, however, cannot be perceived without parting the feathers.

145. *TROGLODYTES PALUSTRIS*, BONAPARTE.*CERTHIA PALUSTRIS*, WILSON. — MARSH WREN.

WILSON, PLATE XII. FIG. IV

THIS obscure but spirited little species has been almost overlooked by the naturalists of Europe, as well as by those of its own country. The marsh wren arrives in Pennsylvania about the middle of May, or as soon as the reeds and a species of nymphaea, usually called splatterdocks, which grow in great luxuriance along the tide water of our rivers, are sufficiently high to shelter it. To such places it almost wholly limits its excursions, seldom venturing far from the river. Its food consists of flying insects, and their larvæ, and a species of green grasshoppers that inhabit the reeds. As to its notes, it would be mere burlesque to call them by the name of song. Standing on the reedy borders of the Schuylkill or Delaware, in the month of June, you hear a low, crackling sound, something similar to that produced by air bubbles forcing their way through mud or boggy ground when trod upon; this is the song of the marsh wren. But as, among the human race, it is not given to one man to excel in every thing, and yet each, perhaps, has something peculiarly his own; so, among birds, we find a like distribution of talents and peculiarities. The little bird now before us, if deficient and contemptible in singing, excels in the art of design, and constructs a nest, which, in durability, warmth, and convenience, is scarcely inferior to one, and far superior to many, of its more musical brethren. This is formed outwardly of wet rushes mixed with mud, well inter-twisted, and fashioned into the form of a cocoa nut. A small hole is left two-thirds up, for entrance, the upper edge of which projects like a pent-house over the lower, to prevent the admission of rain. The inside is lined with fine soft grass, and sometimes feathers; and the outside, when hardened by the sun, resists every kind of weather. This nest is generally suspended among the reeds, above the reach of the highest tides, and is

tyed so fast in every part to the surrounding reeds, as to bid defiance to the winds and the waves. The eggs are usually six, of a dark fawn colour, and very small. The young leave the nest about the 20th of June, and they generally have a second brood in the same season.

The size, general colour, and habit of this bird of erecting its tail, gives it, to a superficial observer, something of the appearance of the common house wren, and still more that of the winter wren; but with the former of these it never associates; and the latter has left us some time before the marsh wren makes his appearance. About the middle of August, they begin to go off; and, on the 1st of September, very few of them are to be seen. How far north the migrations of this species extend, I am unable to say; none of them, to my knowledge, winter in Georgia, or any of the southern States.

The marsh wren is five inches long, and six in extent; the whole upper parts are dark brown, except the upper part of the head, back of the neck, and middle of the back, which are black, the two last streaked with white; the tail is short, rounded, and barred with black; wings, slightly barred; a broad strip of white passes over the eye half way down the neck; the sides of the neck are also mottled with touches of a light clay colour on a whitish ground; whole under parts, pure silvery white, except the vent, which is tinged with brown; the legs are light brown; the hind claw, large, semi-circular, and very sharp; bill, slender, slightly bent; nostrils, prominent; tongue, narrow, very tapering, sharp pointed, and horny at the extremity; eye, hazel. The female almost exactly resembles the male in plumage.

From the above description, the naturalist will perceive that this species is truly a *certhia* or creeper; and indeed its habits confirm this, as it is continually climbing along the stalks of reeds, and other aquatic plants, in search of insects.

FAMILY XI.

TENUIROSTRES, ILLIGER.

GENUS XXVI.—*CERTHIA*, LINNÆUS.

146. *CERTHIA FAMILIARIS*, LINN. AND WILS. — BROWN CREEPER.

WILSON, PLATE VIII. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

THIS bird agrees so nearly with the common European creeper, (*certhia familiaris*,) that I have little doubt of their being one and the same species.

The brown creeper is an extremely active and restless little bird. In winter it associates with the small spotted woodpecker, nuthatch, titmouse, &c; and often follows in their rear, gleaning up those insects which their more powerful bills had alarmed and exposed; for its own slender incurvated bill seems unequal to the task of penetrating into even the decayed wood; though it may enter into holes, and behind scales of the bark. Of the titmouse there are, generally, present the individuals of a whole family, and seldom more than one or two of the others. As the party advances through the woods, from tree to tree, our little gleaner seems to observe a good deal of regularity in his proceedings; for I have almost always observed, that he alights on the body near the root of the tree, and directs his course, with great nimbleness, upwards to the higher branches, sometimes spirally, often in a direct line, moving rapidly and uniformly along, with his tail bent to the tree, and not in the hopping manner of the woodpecker, whom he far surpasses in dexterity of climbing, running along the lower side of the horizontal branches with surprising ease. If any person be near when he alights, he is sure to keep the opposite side of the tree, moving round as he moves, so as to prevent him from getting more than a transient glimpse of him. The best method

of outwitting him, if you are alone, is, as soon as he alights and disappears behind the trunk, take your stand behind an adjoining one, and keep a sharp lookout twenty or thirty feet up the body of the tree he is upon,—for he generally mounts very regularly to a considerable height, examining the whole way as he advances. In a minute or two, hearing all still, he will make his appearance on one side or other of the tree, and give you an opportunity of observing him.

These birds are distributed over the whole United States; but are most numerous in the western and northern States, and particularly so in the depth of the forests, and in tracts of large timbered woods, where they usually breed; visiting the thicker settled parts of the country in fall and winter. They are more abundant in the flat woods of the lower district of New Jersey than in Pennsylvania, and are frequently found among the pines. Though their customary food appears to consist of those insects, known by the general name of bugs, yet I have frequently found in their stomachs the seeds of the pine tree, and fragments of a species of fungus that vegetates in old wood, with generally a large proportion of gravel. There seems to be scarcely any difference between the colours and markings of the male and female. In the month of March, I opened eleven of these birds, among whom were several females, as appeared by the clusters of minute eggs with which their ovaries were filled, and also several well marked males; and, on the most careful comparison of their plumage, I could find little or no difference; the colours, indeed, were rather more vivid and intense in some than in others; but sometimes this superiority belonged to a male, sometimes to a female, and appeared to be entirely owing to difference in age. I found, however, a remarkable and very striking difference in their sizes; some were considerably larger, and had the bill, at least, one-third longer and stronger than the others, and these I uniformly found to be males. I also received two of these birds from the country bordering on the Cayuga lake, in New York State, from a person who killed

them from the tree in which they had their nest. The male of this pair had the bill of the same extraordinary size with several others I had examined before; the plumage in every respect the same. Other males, indeed, were found at the same time, of the usual size. Whether this be only an accidental variety, or whether the male, when full grown, be naturally so much larger than the female, (as is the case with many birds,) and takes several years in arriving at his full size, I cannot positively determine, though I think the latter most probable.

The brown creeper builds his nest in the hollow trunk or branch of a tree, where the tree has been shivered, or a limb broken off, or where squirrels or woodpeckers have wrought out an entrance, for nature has not provided him with the means of excavating one for himself. I have known the female begin to lay by the 17th of April. The eggs are usually seven, of a dull cinereous, marked with small dots of reddish yellow, and streaks of dark brown. The young come forth with great caution, creeping about long before they venture on wing. From the early season at which they begin to build, I have no doubts of their raising two broods during summer, as I have seen the old ones entering holes late in July.

The length of this bird is five inches, and nearly seven from the extremity of one wing to that of the other; the upper part of the head is of a deep brownish black; the back brown, and both streaked with white, the plumage of the latter being of a loose texture, with its filaments not adhering; the white is in the centre of every feather, and is skirted with brown; lower part of the back, rump, and tail-coverts, rusty brown, the last minutely tipped with whitish; the tail is as long as the body, of a light drab colour, with the inner webs dusky, and consists of twelve quills, each sloping off and tapering to a point in the manner of the woodpeckers, but proportionably weaker in the shafts; in many specimens the tail was very slightly marked with transverse undulating waves of dusky, scarce observable;

the two middle feathers the longest, the others on each side shortening, by one sixth of an inch, to the outer one; the wing consists of nineteen feathers, the first an inch long, the fourth and fifth the longest, of a deep brownish black, and crossed about its middle with a curving band of rufous white, a quarter of an inch in breadth, marking ten of the quills; below this the quills are exteriorly edged, to within a little of their tips, with rufous white, and tip with white; the three secondaries next the body are dusky white on their inner webs, tip on the exterior margin with white, and, above that, alternately streaked laterally with black and dull white; the greater and lesser wing-coverts are exteriorly tip with white; the upper part of the exterior edges of the former, rufous white; the line over the eye, and whole lower parts, are white, a little brownish towards the vent, but, on the chin and throat, pure, silky, and glistening; the white curves inwards about the middle of the neck; the bill is half an inch long, slender, compressed sidewise, bending downwards, tapering to a point, dusky above, and white below; the nostrils are oblong, half covered with a convex membrane, and without hairs or small feathers; the inside of the mouth is reddish; the tongue tapering gradually to a point, and horny towards the tip; the eye is dark hazel; the legs and feet, a dirty clay colour; the toes, placed three before and one behind, the two outer ones connected with the middle one to the first joint; the claws rather paler, large, almost semicircular, and extremely sharp pointed; the hind claw the largest.

GENUS XXVII.—*SITTA*, LINNEUS.147. *SITTA CAROLINENSIS*, BRISS. LINN. AND WILS.WHITE-BREASTED BLACK-CAPT NUTHATCH, OR CAROLINA
NUTHATCH.

WILSON, PLATE II. FIG. III.

THE bill of this bird is black, the upper mandible straight, the lower one rounded upwards, towards the

point, and white near the base ; the nostrils are covered with long curving black hairs ; the tongue is of a horny substance, and ending in several sharp points ; the general colour above is of a light blue or lead ; the tail consists of twelve feathers, the two middle ones lead colour, the next three are black, tipt with white for one-tenth, one-fourth, and half of an inch ; the two next are also black, tipt half an inch or more with white, which runs nearly an inch up their exterior edges, and both have the white at the tips touched with black ; the legs are of a purple or dirty flesh colour ; the hind claw is much the largest ; the inside of the wing at the bend is black ; below this is a white spot spreading over the roots of the first five primaries ; the whole length is five inches and a half ; extent, eleven.

Mr Pennant considers this bird as a mere variety of the European nuthatch ; but if difference in size, colour, and habits, be sufficient characteristics of a distinct species, this bird is certainly entitled to be considered as such. The head and back of the European species is of an uniform bluish gray ; the upper parts of the head, neck, and shoulders, of ours, are a deep black glossed with green ; the breast and belly of the former is a dull orange, with streaks of chestnut ; those parts in the latter are pure white. The European has a line of black passing through the eye, half way down the neck ; the present species has nothing of the kind, but appears with the inner webs of the three shortest secondaries and the primaries of a jet black ; the latter tipt with white, and the vent and lower parts of the thighs of a rust colour ; the European, therefore, and the present, are evidently two distinct and different species.

This bird builds its nest early in April, in the hole of a tree, in a hollow rail in the fence, and sometimes in the wooden cornishing under the eaves ; and lays five eggs of a dull white, spotted with brown at the greater end. The male is extremely attentive to the female while sitting ; supplying her regularly with sustenance, stopping frequently at the mouth of the hole, calling and offering her what he has brought, in

the most endearing manner. Sometimes he seems to stop merely to inquire how she is, and to lighten the tedious moments with his soothing chatter. He seldom rambles far from the spot; and when danger appears, regardless of his own safety, he flies instantly to alarm her. When both are feeding on the trunk of the same tree, or of adjoining ones, he is perpetually calling on her; and, from the momentary pause he makes, it is plain that he feels pleased to hear her reply.

The white-breasted nuthatch is common almost every where in the woods of North America, and may be known, at a distance, by the notes, *quank, quank*, frequently repeated, as he moves, upward and down, in spiral circles, around the body and larger branches of the tree, probing behind the thin scaly bark of the white oak, and shelling off considerable pieces of it, in his search after spiders, ants, insects, and their larvæ. He rests and roosts with his head downwards, and appears to possess a degree of curiosity not common in many birds; frequently descending, very silently, within a few feet of the root of the tree where you happen to stand, stopping, head downward, stretching out his neck in a horizontal position, as if to reconnoitre your appearance; and, after several minutes of silent observation, wheeling round, he again mounts, with fresh activity, piping his unisons as before. Strongly attached to his native forests, he seldom forsakes them; and, midst the rigours of the severest winter weather, his note is still heard in the bleak and leafless woods, and among the howling branches. Sometimes the rain, freezing as it falls, encloses every twig, and even the trunk of the tree, in a hard transparent coat or shell of ice. On these occasions I have observed his anxiety and dissatisfaction, at being, with difficulty, able to make his way along the smooth surface; at these times generally abandoning the trees, gleaning about the tables, around the house, mixing among the fowls, entering the barn, and examining the beams and rafters, and every place where he may pick up a subsistence.

The name nuthatch has been bestowed on this family

of birds, from their supposed practice of breaking nuts by repeated hatchings, or hammerings with their bills. Soft shelled nuts, such as chestnuts, chinkopins, and hazel nuts, they may, probably, be able to demolish, though I have never yet seen them so engaged; but it must be rather in search of maggots, that sometimes breed there, than for the kernel. It is, however, said, that they lay up a large store of nuts for winter; but, as I have never either found any of their magazines, or seen them collecting them, I am inclined to doubt the fact. From the great numbers I have opened at all seasons of the year, I have every reason to believe that ants, bugs, small seeds, insects, and their larvæ, form their chief subsistence, such matters alone being uniformly found in their stomachs. Neither can I see what necessity they could have to circumanbulate the trunks of trees with such indefatigable and restless diligence, while bushels of nuts lay scattered round their roots. As to the circumstance mentioned by Dr Plott, of the European nuthatch "putting its bill into a crack in the bough of a tree, and making such a violent sound, as if it was rending asunder," this, if true, would be sufficient to distinguish it from the species we have been just describing, which possesses no such faculty. The female differs little from the male in colour, chiefly in the black being less deep on the head and wings.

148. *SITTA VARIA*, WILSON. — *SITTA CANADENSIS*, LINNÆUS.

RED-BELLIED BLACK-CAPT NUTHATCH.

WILSON, PLATE II. FIG. IV.

THIS bird is much smaller than the last, measuring only four inches and a half in length, and eight inches in extent. In the form of its bill, tongue, nostrils, and in the colour of the back and tail-feathers, it exactly agrees with the former; the secondaries are not relieved with the deep black of the other species, and the legs, feet, and claws, are of a dusky greenish yellow; the

upper part of the head is black, bounded by a stripe of white passing round the frontlet; a line of black passes through the eye to the shoulder; below this is another line of white; the chin is white; the other under parts a light rust colour, the primaries and whole wings a dusky lead colour. The breast and belly of the female is not of so deep a brown, and the top of the head less intensely black.

This species is migratory, passing from the north, where they breed, to the southern States, in October, and returning in April. Its voice is sharper, and its motions much quicker than those of the other, being so rapid, restless, and small, as to make it a difficult point to shoot one of them. When the two species are in the woods together, they are easily distinguished by their voices, the note of the least being nearly an octave sharper than that of its companion, and repeated more hurriedly. In other respects their notes are alike unmusical and monotonous. Approaching so near to each other in their colours and general habits, it is probable that their mode of building, &c. may be also similar.

Buffon's *Torchepot de la Canada*, Canada nuthatch of other European writers, is either a young bird of the present species, in its imperfect plumage, or a different sort, that rarely visits the United States,—probably the latter, as the tail and head appear of the same bluish gray or lead colour as the back. The young birds of this species, it may be observed, have also the crown of a lead colour during the first season; but the tail-feathers are marked nearly as those of the old ones. Want of precision in the figures and descriptions of these authors makes it difficult to determine; but I think it very probable, that *Sitta Jamaicensis minor*, Brisson, the Least Loggerhead of Brown, *Sitta Jamaicensis* var. *t. st.* Linn., and *Sitta Canadensis* of Linnæus, Gmelin, and Brisson, are names that have been originally applied to different individuals of the species we are now describing.

This bird is particularly fond of the seeds of pine

trees. You may traverse many thousand acres of oak, hickory, and chestnut woods, during winter, without meeting with a single individual; but no sooner do you enter among the pines than, if the air be still, you have only to listen for a few moments, and their note will direct you where to find them. They usually feed in pairs, climbing about in all directions, generally accompanied by the former species, as well as by the titmouse, *parus atricapillus*, and the crested titmouse, *parus bicolor*, and not unfrequently by the small spotted woodpecker, *picus pubescens*; the whole company proceeding regularly from tree to tree through the woods like a corps of pioneers; while, in a calm day, the rattling of their bills, and the rapid motions of their bodies, thrown, like so many tumblers and rope dancers, into numberless positions, together with the peculiar chatter of each, are altogether very amusing; conveying the idea of hungry diligence, bustle, and activity. Both these little birds, from the great quantity of destructive insects and larvæ they destroy, both under the bark and among the tender buds of our fruit and forest trees, are entitled to and truly deserving of our esteem and protection.

149. *SITTA PUSILLA*, LATHAM AND WILSON.

BROWN-HEADED NUTHATCH.

WILSON, PLATE XV. FIG. II.

THIS bird is chiefly an inhabitant of Virginia and the southern States, and seems particularly fond of pine trees. I have never yet discovered it either in Pennsylvania or any of the regions north of this. Its manners are very similar to those of the red-bellied nuthatch; but its notes are more shrill and chirping. In the countries it inhabits it is a constant resident; and in winter associates with parties, of eight or ten, of its own species, who hunt busily from tree to tree, keeping up a perpetual screeching. It is a frequent companion of the red-cockaded woodpecker; and you rarely find

the one in the woods without observing or hearing the other not far off. It climbs equally in every direction, on the smaller branches as well as on the body of the tree, in search of its favourite food, small insects and their larvæ. It also feeds on the seeds of the pine tree. I have never met with its nest.

This species is four inches and a quarter long, and eight broad; the whole upper part of the head and neck, from the bill to the back, and as far down as the eyes, is light brown, or pale ferruginous, shaded with darker touches, with the exception of a spot of white near the back; from the nostril through the eyes, the brown is deepest, making a very observable line there; the chin, and sides of the neck under the eyes, are white; the wings, dusky; the coverts and three secondaries next the body, a slate or lead colour; which is also the colour of the rest of the upper parts; the tail is nearly even at the end, the two middle feathers slate colour, the others black, tipped with slate, and crossed diagonally with a streak of white; legs and feet, dull blue; upper mandible, black, lower, blue at the base; iris, hazel. The female differs in having the brown on the head rather darker, and the line through the eye less conspicuous.

This diminutive bird is little noticed in history, and what little has been said of it by Europeans is not much to its credit. It is characterized as "a very stupid bird," which may easily be knocked down, from the sides of the tree, with one's cane. I confess I found it a very dexterous climber; and so rapid and restless in its motions as to be shot with difficulty. Almost all very small birds seem less suspicious of man than large ones; but that activity and restless diligence should constitute stupidity, is rather a new doctrine. Upon the whole, I am of opinion, that a person who should undertake the destruction of these birds, at even a dollar a-head for all he knocked down with his cane, would run a fair chance of starving by his profession.

FAMILY XII.

ANTHOMYZI, Vieill.

GENUS XXVIII. — *TROCHILUS*, LINNÆUS.

SUBGENUS, *MELLISUGA*, BRISSON.

150. *TROCHILUS COLUBRIS*, LINN. AND WILS. — HUMMING BIRD.

WILSON, PLATE X. FIG. III. — MALE. — FIG. IV. — FEMALE.

EDINBURGH COLLEGE MUSEUM.

NATURE, in every department of her works, seems to delight in variety; and the present subject of our history is almost as singular for its minuteness, beauty, want of song, and manner of feeding, as the preceding is for unrivalled excellence of notes, and plainness of plumage. Though this interesting and beautiful genus of birds comprehends upwards of seventy species, all of which, with a very few exceptions, are natives of America and its adjacent islands, it is yet singular, that the species now before us should be the only one of its tribe that ever visits the territory of the United States.

According to the observations of my friend Mr Abbot, of Savannah, in Georgia, who has been engaged these thirty years in collecting and drawing subjects of natural history in that part of the country, the humming bird makes its first appearance there, from the south, about the 23d of March; two weeks earlier than it does in the county of Burke, sixty miles higher up the country towards the interior; and at least five weeks sooner than it reaches this part of Pennsylvania. As it passes on to the northward as far as the interior of Canada, where it is seen in great numbers,* the wonder is

* Mr M'Kenzie speaks of seeing a "beautiful humming bird" near the head of the Unjigah or Peace river, in lat. 54 deg.; but has not particularized the species.

excited how so feebly constructed and delicate a little creature can make its way over such extensive regions of lakes and forests, among so many enemies, all its superiors in strength and magnitude. But its very minuteness, the rapidity of its flight, which almost eludes the eye, and that admirable instinct, reason, or whatever else it may be called, and daring courage, which heaven has implanted in its bosom, are its guides and protectors. In these we may also perceive the reason, why an all-wise Providence has made this little hero an exception to a rule which prevails almost universally through nature, viz. that the smallest species of a tribe are the most prolific. The eagle lays one, sometimes two, eggs; the crow, five; the titmouse, seven or eight; the small European wren, fifteen; the humming bird, *two*: and yet this latter is abundantly more numerous in America than the wren in Europe.

About the 25th of April, the humming bird usually arrives in Pennsylvania; and about the 10th of May begins to build its nest. This is generally fixed on the upper side of a horizontal branch, not among the twigs, but on the body of the branch itself. Yet I have known instances where it was attached by the side to an old moss-grown trunk; and others where it was fastened on a strong rank stalk, or weed, in the garden; but these cases are rare. In the woods it very often chooses a white oak sapling to build on; and in the orchard, or garden, selects a pear tree for that purpose. The branch is seldom more than ten feet from the ground. The nest is about an inch in diameter, and as much in depth. A very complete one is now lying before me, and the materials of which it is composed are as follow:—The outward coat is formed of small pieces of a species of bluish gray lichen that vegetates on old trees and fences, thickly glued on with the saliva of the bird, giving firmness and consistency to the whole, as well as keeping out moisture. Within this are thick, matted layers of the fine wings of certain flying seeds, closely laid together; and, lastly, the

downy substance from the great mullein, and from the stalks of the common fern, lines the whole. The base of the nest is continued round the stem of the branch, to which it closely adheres; and, when viewed from below, appears a mere mossy knot, or accidental protuberance. The eggs are two, pure white, and of equal thickness at both ends. On a person's approaching their nest, the little proprietors dart around with a humming sound, passing frequently within a few inches of one's head; and, should the young be newly hatched, the female will resume her place on the nest even while you stand within a yard or two of the spot. The precise period of incubation I am unable to give; but the young are in the habit, a short time before they leave the nest, of thrusting their bills into the mouths of their parents, and sucking what they have brought them. I never could perceive that they carried them any animal food; though, from circumstances that will presently be mentioned, I think it highly probable they do. As I have found their nests with eggs so late as the 12th of July, I do not doubt but that they frequently, and perhaps usually, raise two brood in the same season.

The humming bird is extremely fond of tubular flowers, and I have often stopt, with pleasure, to observe his manœuvres among the blossoms of the trumpet flower. When arrived before a thicket of these that are full blown, he poises, or suspends himself on wing, for the space of two or three seconds, so steadily, that his wings become invisible, or only like a mist; and you can plainly distinguish the pupil of his eye looking round with great quickness and circumspection; the glossy golden green of his back, and the fire of his throat, dazzling in the sun, form altogether a most interesting appearance. When he alights, which is frequently, he always prefers the small dead twigs of a tree, or bush, where he dresses and arranges his plumage with great dexterity. His only note is a single chirp, not louder than that of a small cricket

or grasshopper, generally uttered while passing from flower to flower, or when engaged in fights with his fellows; for, when two males meet at the same bush, or flower, a battle instantly takes place; and the combatants ascend in the air, chirping, darting and circling around each other, till the eye is no longer able to follow them. The conqueror, however, generally returns to the place, to reap the fruits of his victory. I have seen him attack, and for a few moments tease the king bird; and have also seen him, in his turn, assaulted by a humble-bee, which he soon put to flight. He is one of those few birds that are universally beloved; and amidst the sweet dewy serenity of a summer's morning, his appearance among the arbours of honeysuckles, and beds of flowers, is truly interesting.

When morning dawns, and the blest sun again
Lifts his red glories from the eastern main,
Then through our woodbines, wet with glittering dews,
The flower-fed humming bird his round pursues;
Sips, with inserted tube, the honey'd blooms,
And chirps his gratitude as round he roams;
While richest roses, though in crimson drest,
Shrink from the splendour of his gorgeous breast;
What heav'nly tints in mingling radiance fly!
Each rapid movement gives a different dye;
Like scales of burnish'd gold they dazzling shew,
Now sink to shade—now like a furnace glow!

The singularity of this little bird has induced many persons to attempt to raise them from the nest, and accustom them to the cage. Mr Coffer, of Fairfax county, Virginia, a gentleman who has paid great attention to the manners and peculiarities of our native birds, told me, that he raised, and kept two, for some months, in a cage; supplying them with honey dissolved in water, on which they readily fed. As the sweetness of the liquid frequently brought small flies and gnats about the cage, and cup, the birds amused themselves by snapping at them on wing, and swallowing them with eagerness, so

that these insects formed no inconsiderable part of their food. Mr Charles Wilson Peale, proprietor of the museum, tells me, that he had two young humming birds, which he raised from the nest. They used to fly about the room; and would frequently perch on Mrs Peale's shoulder to be fed. When the sun shone strongly into the chamber, he has observed them darting after the motes that floated in the light, as fly-catchers would after flies. In the summer of 1803, a nest of young humming birds was brought me, that were nearly fit to fly. One of them actually flew out by the window the same evening, and, falling against a wall, was killed. The other refused food, and the next morning I could but just perceive that it had life. A lady in the house undertook to be its nurse, placed it in her bosom, and, as it began to revive, dissolved a little sugar in her mouth, into which she thrust its bill, and it sucked with great avidity. In this manner it was brought up until fit for the cage. I kept it upwards of three months, supplied it with loaf sugar dissolved in water, which it preferred to honey and water, gave it fresh flowers every morning sprinkled with the liquid, and surrounded the space in which I kept it with gauze, that it might not injure itself. It appeared gay, active, and full of spirit, hovering from flower to flower as if in its native wilds, and always expressed by its motions and chirping, great pleasure at seeing fresh flowers introduced to its cage. Numbers of people visited it from motives of curiosity; and I took every precaution to preserve it, if possible, through the winter. Unfortunately, however, by some means it got at large, and, flying about the room, so injured itself that it soon after died.

This little bird is extremely susceptible of cold, and, if long deprived of the animating influence of the sunbeams, droops and soon dies. A very beautiful male was brought me this season, [1809,] which I put into a wire cage, and placed in a retired shaded part of the room. After fluttering about for some time, the weather being uncommonly cool, it clung by the wires,

and hung in a seemingly torpid state for a whole forenoon. No motion whatever of the lungs could be perceived, on the closest inspection; though, at other times, this is remarkably observable; the eyes were shut; and, when touched by the finger, it gave no signs of life or motion. I carried it out to the open air, and placed it directly in the rays of the sun, in a sheltered situation. In a few seconds, respiration became very apparent; the bird breathed faster and faster, opened its eyes, and began to look about, with as much seeming vivacity as ever. After it had completely recovered, I restored it to liberty; and it flew off to the withered top of a pear tree, where it sat for some time dressing its disordered plumage, and then shot off like a meteor.

The flight of the humming bird, from flower to flower, greatly resembles that of a bee; but is so much more rapid, that the latter appears a mere loiterer to him. He poises himself on wing, while he thrusts his long, slender, tubular tongue into the flowers in search of food. He sometimes enters a room by the window, examines the bouquets of flowers, and passes out by the opposite door or window. He has been known to take refuge in a hot-house during the cool nights of autumn; to go regularly out in the morning, and to return as regularly in the evening, for several days together.

The humming bird has, hitherto, been supposed to subsist altogether on the honey, or liquid sweets, which it extracts from flowers. One or two curious observers have, indeed, remarked, that they have found evident fragments of insects in the stomach of this species; but these have been generally believed to have been taken in by accident. The few opportunities which Europeans have to determine this point by observations made on the living bird, or, by dissection of the newly killed one, have rendered this mistaken opinion almost general in Europe. For myself I can speak decisively on this subject: I have seen the humming bird, for half an hour at a time, darting at those little groups of

insects that dance in the air in a fine summer evening, retiring to an adjoining twig to rest, and renewing the attack with a dexterity that sets all our other flycatchers at defiance. I have opened, from time to time, great numbers of these birds; have examined the contents of the stomach with suitable glasses, and, in three cases out of four, have found these to consist of broken fragments of insects. In many subjects, entire insects of the coleopterous class, but very small, were found unbroken. The observations of Mr Coffey, as detailed above, and the remarks of my worthy friend Mr Peale, are corroborative of these facts. It is well known, that the humming bird is particularly fond of tubular flowers, where numerous small insects of this kind resort to feed on the farina, &c; and there is every reason for believing that he is as often in search of these insects as of honey; and that the former compose at least as great a portion of his usual sustenance as the latter. If this food be so necessary for the parents, there is no doubt but the young also occasionally partake of it.

To enumerate all the flowers of which this little bird is fond, would be to repeat the names of half our American Flora. From the blossoms of the towering poplar, or tulip tree, through a thousand intermediate flowers, to those of the humble larkspur, he ranges at will, and almost incessantly. Every period of the season produces a fresh multitude of new favourites. Towards the month of September there is a yellow flower which grows in great luxuriance along the sides of creeks and rivers, and in low moist situations; it grows to the height of two or three feet, and the flower, which is about the size of a thimble, hangs in the shape of a cap of liberty above a luxuriant growth of green leaves. It is the *balsamina noli me tangere* of botanists, and is the greatest favourite with the humming bird of all our other flowers. In some places, where these plants abound, you may see, at one time, ten or twelve humming birds darting about, and fighting with and pursuing each other. About the 20th of September

they generally retire to the south. I have, indeed, sometimes seen a solitary individual on the 28th and 30th of that month, and sometimes even in October; but these cases are rare. About the beginning of November, they pass the southern boundary of the United States into Florida.

The humming bird is three inches and a half in length, and four and a quarter in extent; the whole back, upper part of the neck, sides under the wings, tail-coverts, and two middle feathers of the tail, are of a rich golden green; the tail is forked, and, as well as the wings, of a deep brownish purple; the bill and eyes are black; the legs and feet, both of which are extremely small, are also black; the bill is straight, very slender, a little inflated at the tip, and very incompetent to the exploit of penetrating the tough sinewy side of a crow, and precipitating it from the clouds to the earth, as Charlevoix would persuade his readers to believe.* The nostrils are two small oblong slits, situated at the base of the upper mandible, scarcely perceivable when the bird is dead, though very distinguishable and prominent when living; the sides of the belly, and belly itself, dusky white, mixed with green; but what constitutes the chief ornament of this little bird, is the splendour of the feathers of his throat, which, when placed in a proper position, glow with all the brilliancy of the ruby. These feathers are of singular strength and texture, lying close together like scales, and vary, when moved before the eye, from a deep black to a fiery crimson and burning orange. The female is destitute of this ornament; but differs little in other appearance from the male; her tail is tipped with white, and the whole lower parts are of the same tint. The young birds of the first season, both male and female, have the tail tipped with white, and the whole lower parts nearly white; in the month of September, the ornamental feathers on the throat of the young males begin to appear.

* *Histoire de la Nouvelle France*, iii, p. 185.

On dissection the heart was found to be remarkably large, nearly as big as the cranium, and the stomach, though distended with food, uncommonly small, not exceeding the globe of the eye, and scarcely more than one-sixth part as large as the heart; the fibres of the last were also exceedingly strong. The brain was in large quantity, and very thin; the tongue, from the tip to an extent equal with the length of the bill, was perforated, forming two closely attached parallel and cylindrical tubes; the other extremities of the tongue corresponded exactly to those of the woodpecker, passing up the hind head, and reaching to the base of the upper mandible. These observations were verified in five different subjects, all of whose stomachs contained fragments of insects, and some of them whole ones.

FAMILY XIII.

AGITHALI, Vieill.

GENUS XXIX. — *PARUS*, LINNÆUS.

151. *PARUS ATRICAPILLUS*, LINNÆUS AND WILSON.

BLACK-CAPT TITMOUSE.

WILSON, PLATE VIII. FIG. IV.

THIS is one of our resident birds, active, noisy, and restless; hardy beyond any of his size, braving the severest cold of our continent as far north as the country round Hudson's Bay, and always appearing most lively in the coldest weather. The males have a variety of very sprightly notes, which cannot, indeed, be called a song, but rather a lively, frequently repeated, and often varied twitter. They are most usually seen during the fall and winter, when they leave the depths of the woods, and approach nearer to the scenes of cultivation. At such seasons they abound among ever-greens, feeding on the seeds of the pine tree; they are also fond of sunflower seeds, and associate in parties of six, eight, or more, attended by the Carolina nuthatch, the red-bellied black-capt nuthatch, the crested titmouse, brown creeper, and small spotted woodpecker; the whole forming a very nimble and restless company, whose food, manners, and dispositions are pretty much alike. About the middle of April they begin to build, choosing the deserted hole of a squirrel or woodpecker, and sometimes, with incredible labour, digging out one for themselves. The female lays six white eggs, marked with minute specks of red; the first brood appear about the beginning of June, and the second towards the end of July; the whole of the family continue to associate together during winter. They traverse the

woods in regular progression, from tree to tree, tumbling, chattering, and hanging from the extremities of the branches, examining about the roots of the leaves, buds, and crevices of the bark, for insects and their larvæ. They also frequently visit the orchards, particularly in fall, the sides of the barn and barn-yard, in the same pursuit, trees in such situations being generally much infested with insects. We, therefore, with pleasure, rank this little bird among the farmer's friends, and trust our rural citizens will always recognize him as such.

This species has a very extensive range ; it has been found on the western coast of America as far north as lat. 62° ; it is common at Hudson's Bay, and most plentiful there during winter, as it then approaches the settlements in quest of food. Protected by a remarkably thick covering of long, soft, downy plumage, it braves the severest cold of those northern regions.

The black-capt titmouse is five inches and a half in length, and six and a half in extent ; throat, and whole upper part of the head and ridge of the neck, black ; between these lies a triangular patch of white, ending at the nostril ; bill, black and short ; tongue, truncate ; rest of the upper parts, lead coloured or cinereous, slightly tinged with brown ; wings, edged with white ; breast, belly, and vent, yellowish white ; legs, light blue ; eyes, dark hazel. The male and female are nearly alike.

The upper parts of the head of the young are for some time of a dirty brownish tinge ; and in this state they agree so exactly with the *parus hudsonicus*,* described by Latham, as to afford good grounds for suspecting them to be the same.

These birds sometimes fight violently with each other, and are known to attack young and sickly birds that are incapable of resistance, always directing their blows against the skull. Being in the woods one day, I followed a bird for some time, the singularity of

* Hudson Bay Titmouse, *Synopsis*, ii, 557.

whose notes surprised me. Having shot him from off the top of a very tall tree, I found it to be the black-headed titmouse, with a long and deep indentation in the cranium, the skull having been evidently, at some former time, drove in, and fractured, but was now perfectly healed. Whether or not the change of voice could be owing to this circumstance, I cannot pretend to decide.

152. *PARUS BICOLOR*, LINN. AND WILS. — CRESTED TITMOUSE.

WILSON, PLATE VIII. FIG. V.

THIS is another associate of the preceding species ; but more noisy, more musical, and more suspicious, though rather less active. It is, nevertheless, a sprightly bird, possessing a remarkable variety in the tones of its voice, at one time not much louder than the squeaking of a mouse, and in a moment after whistling aloud, and clearly, as if calling a dog ; and continuing this dog-call through the woods for half an hour at a time. Its high, pointed crest, or, as Pennant calls it, *toupet*, gives it a smart and not inelegant appearance. Its food corresponds with that of the foregoing ; it possesses considerable strength in the muscles of its neck, and is almost perpetually digging into acorns, nuts, crevices, and rotten parts of the bark, after the larvæ of insects. It is also a constant resident here. When shot at and wounded, it fights with great spirit. When confined to a cage, it soon becomes familiar, and will subsist on hemp seed, cherry stones, apple seeds, and hickory nuts, broken and thrown in to it. However, if the cage be made of willows, and the bird not much hurt, he will soon make his way through them. The great concavity of the lower side of the wings and tail of his genus of birds is a strong characteristic, and well suited to their short irregular flight.

This species it also found over the whole United States ; but is most numerous towards the north. It extends also to Hudson's Bay ; and, according to Latham, is found in Denmark, and in the southern

parts of Greenland, where it is called *avingarsak*. If so, it probably inhabits the continent of North America from sea to sea.

The crested titmouse is six inches long, and seven inches and a half in extent; the whole upper parts, a dull cinereous, or lead colour, except the front, which is black, tinged with reddish; whole lower parts, dirty white, except the sides under the wings, which are reddish orange; legs and feet, light blue; bill, black, short, and pretty strong; wing feathers, relieved with dusky on their inner vanes; eye, dark hazel; lores, white; the head elegantly ornamented, with a high, pointed, almost upright, crest; tail, a little forked, considerably concave below, and of the same colour above as the back; tips of the wings, dusky; tongue, very short, truncate, and ending in three or four sharp points. The female cannot be distinguished from the male by her plumage, unless in its being something duller, for both are equally marked with reddish orange on the sides under the wings, which some foreigners have made the distinguishing mark of the male alone.

The nest is built in a hollow tree, the cavity often dug by itself; the female begins to lay early in May; the eggs are usually six, pure white, with a few very small specks of red near the great end. The whole family, in the month of July, hunt together, the parents keeping up a continual chatter, as if haranguing and directing their inexperienced brood.

FAMILY XIV.

PASSERINI, ILLIGER.

GENUS XXX. — *ALAUDA*, LINNÆUS.

153. *ALAUDA ALPESTRIS*, LINNÆUS AND WILSON.

SHORE LARK.

WILSON, PLATE V. FIG. IV. — EDINBURGH COLLEGE MUSEUM.

THIS is the most beautiful of its genus, at least in this part of the world. It is one of our winter birds of passage, arriving from the north in the fall; usually staying with us the whole winter, frequenting sandy plains and open downs, and is numerous in the southern States, as far as Georgia, during that season. They fly high, in loose scattered flocks; and at these times have a single cry, almost exactly like the sky lark of Britain. They are very numerous in many tracts of New Jersey; and are frequently brought to Philadelphia market. They are then generally very fat, and are considered excellent eating. Their food seems principally to consist of small round compressed black seeds, buckwheat, oats, &c. with a large proportion of gravel. On the flat commons, within the boundaries of the city of Philadelphia, flocks of them are regularly seen during the whole winter. In the stomach of these, I have found, in numerous instances, quantities of the eggs or larvæ of certain insects, mixed with a kind of slimy earth. About the middle of March they generally disappear, on their route to the north. Forster informs us, that they visit the environs of Albany fort, in the beginning of May; but go farther north to breed; that they feed on grass seeds, and buds of the sprig birch, and run into small holes, keeping close to the ground; from whence the natives call them *chi-chup*.

*pi-sue.** This same species appears also to be found in Poland, Russia, and Siberia, in winter, from whence they also retire farther north on the approach of spring; except in the northeast parts, and near the high mountains.†

The length of this bird is seven inches, the extent twelve inches; the forehead, throat, sides of the neck, and line over the eye, are of a delicate straw, or Naples yellow, elegantly relieved by a bar of black, that passes from the nostril to the eye, below which it falls, rounding, to the depth of three quarters of an inch; the yellow on the forehead and over the eye, is bounded, within, for its whole length, with black, which covers part of the crown; the breast is ornamented with a broad fan-shaped patch of black: this, as well as all the other spots of black, are marked with minute curves of yellow points; back of the neck, and towards the shoulders, a light drab tinged with lake; lesser wing-coverts, bright cinnamon; greater wing-coverts, the same, interiorly dusky, and tipped with whitish; back and wings, drab-coloured, tinged with reddish, each feather of the former having a streak of dusky black down its centre; primaries, deep dusky, tipped and edged with whitish; exterior feathers, most so; secondaries, broadly edged with light drab, and scalloped at the tips; tail, forked, black; the two middle feathers, which by some have been mistaken for the coverts, are reddish drab, centred with brownish black; the two outer ones on each side, exteriorly edged with white; breast, of a dusky vinous tinge, and marked with spots or streaks of the same; the belly and vent, white; sides, streaked with bay; bill short, (Latham, in mistake, says seven inches,†) of a dusky blue colour; tongue, truncate and bifid; legs and claws, black; hind heel, very long, and almost straight; iris of the eye, hazel. The female has little or no black on the crown; and the yellow on the front is narrow, and of a dirty tinge.

* *Philosophical Transactions*, vol. lxii, p. 388.

† *Arctic Zoology*.

† *Synopsis*, vol. ii, p. 365.

There is a singular appearance in this bird, which I have never seen taken notice of by former writers, viz. certain long black feathers, which extend, by equal distances beyond each other, above the eyebrow; these are longer, more pointed, and of a different texture from the rest around them; and the bird possesses the power of erecting them, so as to appear as if horned, like some of the owl tribe. Having kept one of these birds alive for some time, I was much amused at this odd appearance, and think it might furnish a very suitable specific appellation, viz. *alauda cornuta*, or horned lark. These horns become scarcely perceivable after the bird is dead. The head is slightly crested.

Shore lark and sky lark are names by which this species is usually known in different parts of the Union. They are said to sing well, mounting in the air, in the manner of the song lark of Europe; but this is only in those countries where they breed. I have never heard of their nests being found within the territory of the United States.

GENUS XXXI — *EMBERIZA*, LINNÆUS.

SUBGENUS, *ELECTROPHANIS*, MONTG.

154. *EMBERIZA NIVALIS*, LINNÆUS AND WILSON.

SNOW BUNTING.

WILSON, PLATE XXI. FIG. II. — EDINBURGH COLLEGE MUSEUM.

THIS being one of those birds common to both continents, its migrations extending almost from the very pole, to a distance of forty or fifty degrees around; and its manners and peculiarities having been long familiarly known to the naturalists of Europe, I shall in this place avail myself of the most interesting parts of their accounts, subjoining such particulars as have fallen under my own observation.

"These birds," says Mr Pennant, "inhabit not only Greenland,* but even the dreadful climate of Spitz-

* CRANIUM, p. 77.

bergen, where vegetation is nearly extinct, and scarcely any but *cryptogamous* plants are found. It therefore excites wonder, how birds, which are graminivorous in every other than those frost-bound regions, subsist: yet are there found in great flocks both on the land and ice of Spitzbergen.* They annually pass to this country by way of Norway; for, in the spring, flocks innumerable appear, especially on the Norwegian isles, continue only three weeks, and then at once disappear.† As they do not breed in Hudson's Bay, it is certain that many retreat to this last of lands, and totally uninhabited, to perform, in full security, the duties of love, incubation, and nutrition. That they breed in Spitzbergen, is very probable; but we are assured that they do so in Greenland. They arrive there in April, and make their nests in the fissures of the rocks, on the mountains, in May; the outside of their nest is grass, the middle of feathers, and the lining the down of the Arctic fox. They lay five eggs, white, spotted with brown: they sing finely near their nest.

"They are caught by the boys in autumn when they collect near the shores in great flocks, in order to migrate; and are eaten dried.‡

"In Europe, they inhabit, during summer, the most naked Lapland Alps, and descend in rigorous seasons into Sweden, and fill the roads and fields; on which account the Dalecarlians call them *illwarsfogel*, or bad-weather birds—the Uplanders, *hardwarsfogel*, expressive of the same. The Laplanders style them *alaiqq*. Leems's remarks, I know not with what foundation, that they fatten on the flowing of the tides in Finmark, and grow lean on the ebb. The Laplanders take them in great numbers in hairsprings, for the tables, their flesh being very delicate.

"They seem to make the countries within the whole Arctic circle their summer residence, from whence they

* Lord MULGRAVE'S *Voyage*, 188; MARTIN'S *Voyage*, 73.

† LEEMS, 236.

‡ FAUN. *Greenland*, 118.

§ *Finmark*, 235.

overflow the more southern countries in amazing multitudes, at the setting in of winter in the frigid zone. In the winter of 1778-9, they came in such multitudes into Birsá, one of the Orkney islands, as to cover the whole barony; yet of all the numbers, hardly two agreed in colours.

"Lapland, and perhaps Iceland, furnishes the north of Britain with the swarms that frequent these parts during winter, as low as the Cheviot hills, in lat. 52° 32'. Their resting places, the Feroe isles, Schetland, and the Orkneys. The Highlands of Scotland, in particular, abound with them. Their flights are immense, and they mingle so closely together in form of a ball, that the fowlers make great havoc among them. They arrive lean, soon become very fat, and are delicious food. They either arrive in the Highlands very early, or a few breed there, for I had one shot for me at Invercauld, the 4th of August. But there is a certainty of their migration; for multitudes of them fall, wearied with their passage, on the vessels that are sailing through the Pentland Firth.*

"In their summer dress, they are sometimes seen in the south of England,† the climate not having severity sufficient to affect the colours; yet now and then a milk white one appears, which is usually mistaken for a white lark.

"Russia and Siberia receive them in their severe seasons annually, in amazing flocks, overflowing almost all Russia. They frequent the villages, and yield a most luxurious repast. They vary there infinitely in their winter colours, are pure white, speckled, and even quite brown.‡ This seems to be the influence of difference of age more than of season. Germany has also its share of them. In Austria, they are caught and fed with millet, and afford the epicure a treat equal to that of the ortolan."§

* BISHOP POCOCKE'S *Journal*, MS.

† MORTON'S *Northamp.* p. 427.

‡ BELL'S *Travels*, i. 198.

§ KRAMER, *Anim. Austr.* 372.

These birds appear in the northern districts of the United States early in December, or with the first heavy snow, particularly if drifted by high winds. They are usually called the *white snow bird*, to distinguish them from the small dark bluish snow bird. Their numbers increase with the increasing severity of weather, and depth of snow. Flocks of them sometimes reach as far south as the borders of Maryland; and the whiteness of their plumage is observed to be greatest towards the depth of winter. They spread over the Genesee country and the interior of the district of Maine, flying in close compact bodies, driving about most in a high wind; sometimes alighting near the doors, but seldom sitting long, being a roving, restless bird. In these plentiful regions, where more valuable game is abundant, they hold out no temptation to the sportsman or hunter; and except the few caught by boys in snares, no other attention is paid to them. They are, however, universally considered as the harbingers of severe cold weather. How far westward they extend I am unable to say. One of the most intelligent and expert hunters who accompanied Captains Lewis and Clark on their expedition to the Pacific Ocean, informs me, that he has no recollection of seeing these birds in any part of their tour, not even among the bleak and snowy regions of the Stony mountains; though the little blue one was in abundance.

The snow bunting derives a considerable part of its food from the seeds of certain aquatic plants, which may be one reason for its preferring these remote northern countries, so generally intersected with streams, ponds, lakes, and shallow arms of the sea, that probably abound with such plants. In passing down the Seneca river towards Lake Ontario, late in the month of October, I was surprised by the appearance of a large flock of these birds feeding on the surface of the water, supported on the tops of a growth of weeds that rose from the bottom, growing so close together that our boat could with great difficulty make its way through them. They were running about with great activity; and those I shot

and examined, were filled, not only with the seeds of this plant, but with a minute kind of shell fish that adheres to the leaves. In these kind of aquatic excursions they are doubtless greatly assisted by the length of their hind heel and claws. I also observed a few on Table Rock, above the Falls of Niagara, seemingly in search of the same kind of food.

According to the statements of those traders who have resided near Hudson's Bay, the snow buntings are the earliest of their migratory birds, appearing there about the 11th of April, staying about a month or five weeks, and proceeding farther north to breed. They return again in September, stay till November, when the severe frosts drive them southward.*

The summer dress of the snow bunting is a tawny brown, interspersed with white, covering the head, neck, and lower parts; the back is black, each feather being skirted with brown; wings and tail, also black, marked in the following manner:—the three secondaries next the body are bordered with bay, the next with white, and all the rest of the secondaries, as well as their coverts, and shoulder of the wing, pure white; the first six primaries are black from their coverts downwards to their extremities; tail, forked, the three exterior feathers, on each side, white, marked on the outer edge, near the tip, with black; the rest, nearly all black; tail-coverts, reddish brown, fading into white; bill, pale brown; legs and feet, black; hind claw long, like that of the lark, though more curved. In winter, they become white on the head, neck, and whole under side, as well as great part of the wings and rump; the back continues black, skirted with brown. Some are even found pure white. Indeed, so much does their plumage vary according to age and season, that no two are found at any time alike.

* *London Philosophical Transactions*, lxii, 403.

GENUS XXXII.—*TANAGRA*, LINNEUS.SUBGENUS *PYRANGA*, VIEILL.155. *TANAGRA RUBRA*, WILSON.—SCARLET TANAGER.

WILSON, PLATE XI. FIG. III. MALE.—FIG. IV. FEMALE.

EDINBURGH COLLEGE MUSEUM.

THIS is one of the gaudy foreigners, (and perhaps the most showy,) that regularly visit us from the torrid regions of the south. He is drest in the richest scarlet, set off with the most jetty black, and comes, over extensive countries, to sojourn for a time among us. While we consider him entitled to all the rights of hospitality, we may be permitted to examine a little into his character, and endeavour to discover, whether he has any thing else to recommend him, besides that of having a fine coat, and being a great traveller.

On or about the 1st of May, this bird makes his appearance in Pennsylvania. He spreads over the United States, and is found even in Canada. He rarely approaches the habitations of man, unless, perhaps, to the orchard, where he sometimes builds; or to the cherry trees, in search of fruit. The depth of the woods is his favourite abode. There, among the thick foliage of the tallest trees, his simple, and almost monotonous notes, *chip, churr*, repeated at short intervals, in a pensive tone, may be occasionally heard, which appear to proceed from a considerable distance, though the bird be immediately above you; a faculty bestowed on him by the beneficent Author of Nature, no doubt for his protection, to compensate, in a degree, for the danger to which his glowing colour would often expose him. Besides this usual note, he has, at times, a more musical chant, something resembling in mellowness that of the Baltimore oriole. His food consists of large, winged insects, such as wasps, hornets, and humble bees, and also of fruit, particularly those of that species of *vaccinium* usually called huckle-berries, which, in their season, form almost his whole fare. His nest is built about the middle of May, on the horizontal branch of a

tree, sometimes an apple tree, and is but slightly put together; stalks of broken flax, and dry grass, so thinly wove together, that the light is easily perceivable through it, form the repository of his young. The eggs are three, of a dull blue, spotted with brown or purple. They rarely raise more than one brood in a season, and leave us for the south about the last week in August.

Among all the birds that inhabit our woods, there is none that strikes the eye of a stranger, or even a native, with so much brilliancy as this. Seen among the green leaves, with the light falling strongly on his plumage, he really appears beautiful. If he has little of melody in his notes to charm us, he has nothing in them to disgust. His manners are modest, easy, and inoffensive. He commits no depredations on the property of the husbandman, but rather benefits him by the daily destruction, in spring, of many noxious insects; and, when winter approaches, he is no plundering dependant, but seeks, in a distant country, for that sustenance which the severity of the season denies to his industry in this. He is a striking ornament to our rural scenery, and none of the meanest of our rural songsters. Such being the true traits of his character, we shall always with pleasure welcome this beautiful, inoffensive stranger to our orchards, groves, and forests.

The male of this species, when arrived at his full size and colours, is six inches and a half in length, and ten and a half broad. The whole plumage is of a most brilliant scarlet, except the wings and tail, which are of a deep black; the latter, handsomely forked, sometimes minutely tipped with white, and the interior edges of the wing feathers nearly white; the bill is strong, considerably inflated, like those of his tribe, the edge of the upper mandible, somewhat irregular, as if toothed, and the whole of a dirty gamboge, or yellowish horn colour; this, however, like that of most other birds, varies according to the season. About the 1st of August he begins to moult; the young feathers coming out, of a greenish yellow colour, until he appears nearly all dappled with spots of scarlet and greenish yellow. In this state of plumage he leaves us. How long it is

before he recovers his scarlet dress, or whether he continues of this greenish colour all winter, I am unable to say. The iris of the eye is of a cream colour, the legs and feet, light blue. The female is green above, and yellow below; the wings and tail, brownish black, edged with green. The young birds, during their residence here the first season, continue nearly of the same colour with the female. In this circumstance we again recognize the wise provision of the Deity, in thus clothing the female, and the inexperienced young, in a garb so favourable for concealment among the foliage; as the weakness of the one, and the frequent visits of the other to her nest, would greatly endanger the safety of all. That the young males do not receive their red plumage until the early part of the succeeding spring, I think highly probable, from the circumstance of frequently finding their red feathers, at that season, intermixed with green ones, and the wings also broadly edged with green. These facts render it also probable that the old males regularly change their colour, and have a summer and winter dress; but this, farther observations must determine.

There is in the Brazils a bird of the same genus with this, and very much resembling it, so much so as to have been frequently confounded with it by European writers. It is the *tanagra Brazilia* of Turton; and, though so like, is yet a very distinct species from the present, as I have myself had the opportunity of ascertaining, by examining two very perfect specimens from Brazil, now in the possession of Mr Peale, and comparing them with this. The principal differences are these: The plumage of the Brazilian is almost black at bottom, very deep scarlet at the surface, and of an orange tint between; ours is ash coloured at bottom, white in the middle, and bright scarlet at top. The tail of ours is forked, that of the other, cuneiform, or rounded. The bill of our species is more inflated, and of a greenish yellow colour; the other's is black above, and whitish below, towards the base. The whole plumage of the southern species is of a coarser, stiffer quality, particularly on the head. The wings and tail, in both, are black.

In the account which Buffon gives of the scarlet tanager, and cardinal grosbeak, there appears to be very great confusion, and many mistakes; to explain which, it is necessary to observe, that Mr Edwards, in his figure of the scarlet tanager, or scarlet sparrow, as he calls it, has given it a hanging crest, owing, no doubt, to the loose, disordered state of the plumage of the stuffed or dried skin from which he made his drawing. Buffon has afterwards confounded the two together, by applying many stories, originally related of the cardinal grosbeak, to the scarlet tanager; and the following he gravely gives as his reason for so doing: "We may presume," says he, "that when travellers talk of the warble of the cardinal, they mean the scarlet cardinal, for the other cardinal is of the genus of the grosbeaks, consequently a silent bird."* This silent bird, however, has been declared by an eminent English naturalist, to be almost equal to their own nightingale! The Count also quotes the following passage from Charlevoix to prove the same point, which, if his translator has done him justice, evidently proves the reverse. "It is scarcely more than a hundred leagues," says this traveller, "south of Canada, that the cardinal begins to be seen. Their song is sweet, their plumage beautiful, and their head wears a crest." But the scarlet tanager is found even in Canada, as well as an hundred leagues to the south, while the cardinal grosbeak is not found in any great numbers north of Maryland. The latter, therefore, it is highly probable, was the bird meant by Charlevoix, and not the scarlet tanager. Buffon also quotes an extract of a letter from Cuba, which, if the circumstance it relates be true, is a singular proof of the estimation in which the Spaniards hold the cardinal grosbeak. "On Wednesday arrived at the port of Havannah, a bark from Florida, loaded with cardinal birds, skins, and fruit. The Spaniards bought the cardinal birds at so high a price as ten dollars a-piece; and, notwithstanding the public distress, spent on them the sum of 18,000 dollars!"†

* BUFFON, vol. iv, p. 209.

† GMELLI CARERI.

With a few facts more I shall conclude the history of the scarlet tanager : When you approach the nest, the male keeps cautiously at a distance, as if fearful of being seen ; while the female hovers around in the greatest agitation and distress. When the young leave the nest, the male parent takes a most active part in feeding and attending them, and is then altogether indifferent of concealment.

Passing through an orchard one morning, I caught one of these young birds, that had but lately left the nest. I carried it with me about half a mile, to shew it to my friend, Mr William Bartram ; and, having procured a cage, hung it up on one of the large pine trees in the botanic garden, within a few feet of the nest of an orchard oriole, which also contained young ; hopeful that the charity or tenderness of the orioles would induce them to supply the cravings of the stranger. But charity with them, as with too many of the human race, began and ended at home. The poor orphan was altogether neglected, notwithstanding its plaintive cries ; and, as it refused to be fed by me, I was about to return it back to the place where I found it, when, towards the afternoon, a scarlet tanager, no doubt its own parent, was seen fluttering round the cage, endeavouring to get in. Finding this impracticable, he flew off, and soon returned with food in his bill ; and continued to feed it till after sunset, taking up his lodgings on the higher branches of the same tree. In the morning, almost as soon as day broke, he was again seen most actively engaged in the same affectionate manner ; and, notwithstanding the insolence of the orioles, continued his benevolent offices the whole day, roosting at night as before. On the third or fourth day, he appeared extremely solicitous for the liberation of his charge, using every expression of distressful anxiety, and every call and invitation that nature had put in his power for him to come out. This was too much for the feelings of my venerable friend ; he procured a ladder, and mounting to the spot where the bird was suspended, opened the cage, took out the prisoner, and restored

him to liberty and to his parent, who, with notes of great exultation, accompanied his flight to the woods. The happiness of my good friend was scarcely less complete, and shewed itself in his benevolent countenance; and I could not refrain saying to myself,—If such sweet sensations can be derived from a simple circumstance of this kind, how exquisite, how unspeakably rapturous, must the delight of those individuals have been, who have rescued their fellow beings from death, chains, and imprisonment, and restored them to the arms of their friends and relations! Surely, in such godlike actions, virtue is its own most abundant reward.

156. *TANAGRA VESTITA*, GM. AND WILS. — SUMMER RED-BIRD.

WILSON, PLATE VI. FIG. III. MALE. — FIG. IV. FEMALE.

THE change of colour which this bird is subject to during the first year, and the imperfect figure first given of it by Catesby, have deceived the European naturalists so much, that four different species have been formed out of this one.

The male of the summer red-bird is wholly of a rich vermilion colour, most brilliant on the lower parts, except the inner vanes and tips of the wings, which are of a dusky brown; the bill is disproportionably large, inflated, the upper mandible furnished with a process, and the whole bill of a yellowish horn colour; the legs and feet are light blue, inclining to purple; the eye, large, the iris of a light hazel colour; the length of the whole bird, seven inches and a quarter; and between the tips of the expanded wings, twelve inches. The female differs little in size from the male; but is, above, of a brownish yellow olive, lightest over the eye; throat, breast, and whole lower part of the body, of a dull orange yellow; tips and interior vanes of the wings, brown; bill, legs, and eye, as in the male. The nest is built in the woods, on the horizontal branch of a half-grown tree, often an evergreen, at the height of ten or twelve feet from the ground; composed, outwardly,

of broken stalks of dry flax, and lined with fine grass; the female lays three light blue eggs; the young are produced about the middle of June; and I suspect that the same pair raise no more than one brood in a season, for I have never found their nests but in May or June. Towards the middle of August, they take their departure for the south, their residence here being scarcely four months. The young are, at first, of a green olive above, nearly the same colour as the female below, and do not acquire their full tints till the succeeding spring or summer.

The change, however, commences the first season before their departure. In the month of August, the young males are distinguished from the females by their motley garb; the yellow plumage below, as well as the olive green above, first becoming stained with spots of a buff colour, which gradually brighten into red; these being irregularly scattered over the whole body, except the wings and tail, particularly the former, which I have often found to contain four or five green quills in the succeeding June. The first of these birds I ever shot was green winged; and conceiving it at that time to be a nondescript, I made a drawing of it with care; and on turning to it at this moment, I find the whole of the primaries, and two of the secondaries, yellowish green, the rest of the plumage a full red. This was about the middle of May. In the month of August, of the same year, being in the woods with my gun, I perceived a bird of very singular plumage, and having never before met with such an oddity, instantly gave chase to it. It appeared to me, at a small distance, to be sprinkled all over with red, green, and yellow. After a great deal of difficulty, for the bird had taken notice of my eagerness, and had become extremely shy, I succeeded in bringing it down; and found it to be a young bird of the same species with the one I had killed in the preceding May, but less advanced to its fixed colours; the wings entirely of a greenish yellow, and the rest of the plumage spotted, in the most irregular manner, with red, yellow, brown, and greenish. Having,

since that time, seen them in all their stages of colour, during their residence here, I have the more satisfaction in assuring the reader that the whole four species mentioned by Dr Latham are one and the same.

The food of these birds consists of various kinds of bugs, and large black beetles. In several instances, I have found the stomach entirely filled with the broken remains of humble bees. During the season of whortleberries, they seem to subsist almost entirely on these berries; but, in the early part of the season, on insects of the above description. In Pennsylvania, they are a rare species, having myself sometimes passed a whole summer without seeing one of them; while in New Jersey, even within half a mile of the shore opposite the city of Philadelphia, they may generally be found during the season.

The note of the male is a strong and sonorous whistle, resembling a loose trill or shake on the notes of a fife, frequently repeated; that of the female is rather a kind of chattering, approaching nearly to the rapid pronunciation of *chicky-tucky-tuck, chicky-tucky-tuck*, when she sees any person approaching the neighbourhood of her nest. She is, however, rarely seen, and usually mute, and scarcely to be distinguished from the colour of the foliage at a distance; while the loquacity and brilliant red of the male make him very conspicuous; and when seen among the green leaves, particularly if the light falls strongly on his plumage, he has a most beautiful and elegant appearance. It is worthy of remark, that the females of almost all our splendid feathered birds are drest in plain and often obscure colours, as if Providence meant to favour their personal concealment, and, consequently, that of their nest and young, from the depredations of birds of prey; while, among the latter, such as eagles, owls, hawks, &c. which are under no such apprehension, the females are uniformly covered with richer coloured plumage than the males.

The summer red-bird delights in a flat sandy country covered with wood, and interspersed with pine trees; and is, consequently, more numerous towards the shores

of the Atlantic than in the interior. In both Carolinas, and in Georgia and Florida, they are in great plenty. In Mexico some of them are probably resident, or, at least, winter there, as many other of our summer visitants are known to do. In the northern States they are very rare; and I do not know that they have been found either in Upper or Lower Canada. Du Pratz, in his *History of Louisiana*, has related some particulars of this bird, which have been repeated by almost every subsequent writer on the subject, viz. that "it inhabits the woods on the Mississippi, and collects against winter a vast magazine of maize, which it carefully conceals with dry leaves, leaving only a small hole for entrance; and is so jealous of it, as never to quit its neighbourhood except to drink." It is probable, though I cannot corroborate the fact, that individuals of this species may winter near the Mississippi; but that, in a climate so moderate, and where such an exuberance of fruits, seeds, and berries, is to be found, even during winter, this, or any other bird, should take so much pains in hoarding a vast quantity of Indian corn, and attach itself so closely to it, is rather apocryphal. The same writer, vol. ii, p. 94, relates similar particulars of the cardinal grosbeak, (*loxia cardinalis*,) which, though it winters in Pennsylvania, where the climate is much more severe, and where the length and rigours of that season would require a far larger magazine, and be a threefold greater stimulus to hoarding, yet has no such habit here. Besides, I have never found a single grain of Indian corn in the stomach of the summer red-bird, though I have examined many individuals of both sexes. On the whole, I consider this account of Du Pratz's in much the same light with that of his countryman, Charlevoix, who gravely informs us, that the owls of Canada lay up a store of live mice for winter; the legs of which they first break, to prevent them from running away, and then feed them carefully, and fatten them, till wanted for use.*

* *Travels in Canada*, vol. i, p. 230. Lond. 1761. 8vo.

Its manners—though neither its bill nor tongue—partake very much of those of the flycatcher; for I have frequently observed both male and female, a little before sunset, in parts of the forest clear of underwood, darting after winged insects, and continuing thus engaged till it was almost dusk.

157. *TANAGRA LUDOVICIANA*, WILSON. — LOUISIANA Tanager.

WILSON, PLATE XX. FIG. 1.

This bird, together with Clark's crow, and Lewis's woodpecker, as has already been mentioned, were discovered, in the remote regions of Louisiana, by the exploring party under the command of Captain George Merriwether Lewis, and Lieutenant, now General, William Clark, in their memorable expedition across the continent to the Pacific Ocean.

The frail remains of the bird now under consideration, as well as of the other two, have been set up by Mr Peale, in his museum, with as much neatness as the state of the skins would permit. Of three of these which were put into my hands for examination, the most perfect was selected for a drawing. Its size and markings were as follow :—Length, six inches and a half; back, tail, and wings, black; the greater wing-coverts, tipped with yellow; the next superior row, wholly yellow; neck, rump, tail-coverts, and whole lower parts, greenish yellow; forepart of the head, to and beyond the eyes, light scarlet; bill, yellowish horn colour; edges of the upper mandible, ragged, as in the rest of its tribe; legs, light blue; tail, slightly forked, and edged with dull whitish: the whole figure about the size, and much resembling in shape, the scarlet tanager already described; but evidently a different species, from the black back, and yellow coverts. Some of the feathers on the upper part of the back were also skirted with yellow. A skin of what I supposed to be the female, or a young bird, differed in having the wings and back brownish, and in being rather less.

The family, or genus, to which this bird belongs, is

particularly subject to changes of colour, both progressively, during the first and second seasons; and also periodically, afterwards. Some of those that inhabit Pennsylvania change from an olive green to a greenish yellow; and, lastly, to a brilliant scarlet; and I confess, when the preserved specimen of the present species was first shewn me, I suspected it to have been passing through a similar change at the time it was taken. But, having examined two more skins of the same species, and finding them all marked very nearly alike, which is seldom the case with those birds that change while moulting, I began to think that this might be its most permanent, or, at least, its summer or winter dress.

The little information I have been able to procure of the species generally, or at what particular season these were shot, prevents me from being able to determine this matter to my wish.

I can only learn, that they inhabit the extensive plains or prairies of the Missouri, between the Osage and Mandan nations; building their nests in low bushes, and often among the grass. With us the tanagers usually build on the branches of a hickory or white oak sapling. These birds delight in various kinds of berries, with which those rich prairies are said to abound.

GENUS XXXIII. — *FRINGILLA*, LINNÆUS.

SUBGENUS I. — *SPIZA*, BONAPARTE.

158. *FRINGILLA CYANEA*, WILSON. — INDIGO BIRD.

WILSON, PLATE VI. FIG. V.

THIS is another of those rich plumaged tribes that visit us in spring from the regions of the south. It arrives in Pennsylvania on the second week in May, and disappears about the middle of September. It is numerous in all the settled parts of the middle and eastern States; in the Carolinas and Georgia it is also abundant. Though Catesby says that it is only found at a great distance from the sea, yet round the city of New York, and in many places along the shores of New Jersey, I have met with them in plenty. I may also add,

on the authority of Mr William Bartram, that "they inhabit the continent and sea-coast islands, from Mexico to Nova Scotia, from the sea-coast west beyond the Apalachian and Cherokee mountains." * They are also known in Mexico, where they probably winter. Its favourite haunts, while with us, are about gardens, fields of deep clover, the borders of woods, and roadsides, where it is frequently seen perched on the fences. In its manners, it is extremely active and neat, and a vigorous and pretty good songster. It mounts to the highest top of a large tree, and chants for half an hour at a time. Its song is not one continued strain, but a repetition of short notes, commencing loud and rapid, and falling, by almost imperceptible gradations, for six or eight seconds, till they seem hardly articulate, as if the little minstrel were quite exhausted; and, after a pause of half a minute or less, commences again as before. Some of our birds sing only in spring, and then chiefly in the morning, being comparatively mute during the heat of noon; but the indigo bird chants with as much animation under the meridian sun, in the month of July, as in the month of May; and continues his song, occasionally, to the middle or end of August. His usual note, when alarmed by an approach to his nest, is a sharp *chip*, like that of striking two hard pebbles smartly together.

Notwithstanding the beauty of his plumage, the vivacity with which he sings, and the ease with which he can be reared and kept, the Indigo bird is seldom seen domesticated. The few I have met with were taken in trap cages; and such of any species rarely sing equal to those which have been reared by hand from the nest. There is one singularity which may be mentioned here, viz. that, in some certain lights, his plumage appears of a rich sky blue, and in others of a vivid verdigris green; so that the same bird, in passing from one place to another before your eyes, seems to undergo a total change of colour. When the angle of incidence of the rays of light, reflected from his plumage, is

* *Travels*, p. 299.

acute, the colour is green, when obtuse, blue. Such, I think, I have observed to be uniformly the case, without being optician enough to explain why it is so. From this, however, must be excepted the colour of the head, which, being of a very deep blue, is not affected by a change of position.

The nest of this bird is usually built in a low bush, among rank grass, grain, or clover, suspended by two twigs, one passing up each side; and is composed outwardly of flax, and lined with fine dry grass. The eggs, generally five, are blue, with a blotch of purple at the great end.

The indigo bird is five inches long, and seven inches in extent; the whole body is of a rich sky blue, deepening on the head to an ultramarine, with a tinge of purple; the blue on the body, tail, and wings, varies in particular lights to a light green, or verdigris colour, similar to that on the breast of a peacock; wings, black, edged with light blue, and becoming brownish towards the tips; lesser coverts, light blue; greater, black, broadly skirted with the same blue; tail, black, exteriorly edged with blue; bill, black above, whitish below, somewhat larger in proportion than finches of the same size usually are, but less than those of the genus *emberiza*, with which Mr Pennant has classed it, though, I think, improperly, as the bird has much more of the form and manners of the genus *fringilla*, where I must be permitted to place it; legs and feet, blackish brown. The female is of a light flaxen colour, with the wings dusky black, and the cheeks, breast, and whole lower parts, a clay colour, with streaks of a darker colour under the wings, and tinged in several places with bluish. Towards fall, the male, while moulting, becomes nearly of the colour of the female, and in one which I kept through the winter, the rich blue plumage did not return for more than two months; though I doubt not, had the bird enjoyed his liberty and natural food under a warm sun, this browiness would have been of shorter duration. The usual food of this species is insects and various kinds of seeds.

159. *FRINGILLA CIRIS*, WILSON AND TEMMINCK.

PAINTED BUNTING.

WILSON, PLATE XXIV. FIG. I. MALE. — FIG. II. FEMALE.

THIS is one of the most numerous of the little summer birds of Lower Louisiana, where it is universally known among the French inhabitants, and called by them "le pape," and by the Americans the nonpareil. Its gay dress and docility of manners have procured it many admirers; for these qualities are strongly attractive, and carry their own recommendations always along with them. The low countries of the Southern States, in the vicinity of the sea, and along the borders of our large rivers, particularly among the rice plantations, are the favourite haunts of this elegant little bird. A few are seen in North Carolina; in South Carolina they are more numerous; and still more so in the lower parts of Georgia. To the westward, I first met them at Natchez, on the Mississippi, where they seemed rather scarce. Below Baton Rouge, along the levee, or embankment of the river, they appeared in great numbers; and continued to become more common as I approached New Orleans, where they were warbling from almost every fence, and crossing the road before me every few minutes. Their notes very much resemble those of the indigo bird; but want the strength and energy of the latter, being more feeble and more concise.

I found these birds very commonly domesticated in the houses of the French inhabitants of New Orleans; appearing to be the most common cage bird they have. The negroes often bring them to market, from the neighbouring plantations, for sale; either in cages, taken in traps, or in the nest. A wealthy French planter, who lives on the banks of the Mississippi, a few miles below Bayo Fourche, took me into his garden, which is spacious and magnificent, to shew me his aviary; where, among many of our common birds, I

observed several nonpareils, two of which had nests, and were then hatching.

Were the same attention bestowed on these birds as on the canary, I have no doubt but they would breed with equal facility, and become equally numerous and familiar, while the richness of their plumage might compensate for their inferiority of song. Many of them have been transported to Europe; and I think I have somewhere read, that in Holland attempts have been made to breed them, and with success. When the employments of the people of the United States become more sedentary, like those of Europe, the innocent and agreeable amusement of keeping and rearing birds in this manner will become more general than it is at present, and their manners better known. And I cannot but think, that an intercourse with these little innocent warblers is favourable to delicacy of feeling, and sentiments of humanity; for I have observed the rudest and most savage softened into benevolence while contemplating the interesting manners of these inoffensive little creatures.

Six of these birds, which I brought with me from New Orleans by sea, soon became reconciled to the cage. In good weather, the males sung with great sprightliness, though they had been caught only a few days before my departure. They were greedily fond of flies, which accompanied us in great numbers during the whole voyage; and many of the passengers amused themselves with catching these and giving them to the nonpareils; till, at length, the birds became so well acquainted with this amusement, that as soon as they perceived any of the people attempting to catch flies, they assembled at the front of the cage, stretching out their heads through the wires with eager expectation, evidently much interested in the issue of their efforts.

These birds arrive in Louisiana, from the south, about the middle of April, and begin to build early in May. In Savannah, according to Mr Abbot, they arrive about the 20th of April. Their nests are usually fixed in orange hedges, or on the lower branches of

the orange tree; I have also found them in a common bramble or blackberry bush. They are formed exteriorly of dry grass, intermingled with the silk of caterpillars, lined with hair, and lastly with some extremely fine roots of plants. The eggs are four or five, white, or rather pearl coloured, marked with purplish brown specks. As some of these nests had eggs so late as the 25th of June, I think it probable that they sometimes raise two brood in the same season. The young birds of both sexes, during the first season, are of a fine green olive above, and dull yellow below. The females undergo little or no change, but that of becoming of a more brownish cast. The males, on the contrary, are long and slow in arriving at their full variety of colours. In the second season, the blue on the head begins to make its appearance, intermixed with the olive green: the next year, the yellow shews itself on the back and rump; and also the red, in detached spots, on the throat and lower parts. All these colours are completed in the fourth season, except, sometimes, that the green still continues on the tail. On the fourth and fifth season, the bird has attained his complete colours. No dependence, however, can be placed on the regularity of this change in birds confined in a cage, as the want of proper food, sunshine, and variety of climate, all conspire against the regular operations of nature.

The nonpareil is five inches and three quarters long, and eight inches and three quarters in extent; head, neck above, and sides of the same, a rich purplish blue; eyelid, chin, and whole lower parts, vermilion; back and scapulars, glossy yellow, stained with rich green, and in old birds with red; lesser wing-coverts, purple; larger, green; wings, dusky red, sometimes edged with green; lower part of the back, rump, and tail-coverts, deep glossy red, inclining to carmine; tail, slightly forked, purplish brown (generally green;) legs and feet, leaden gray; bill, black above, pale blue below; iris of the eye, hazel.

The female is five and a half inches long, and eight

inches in extent; upper parts, green olive, brightest on the rump; lower parts, a dusky Naples yellow, brightest on the belly; and tinged considerably on the breast with dull green, or olive; cheeks, or ear-feathers, marked with lighter touches; bill, wholly a pale lead colour, lightest below; legs and feet, the same.

The food of these birds consists of rice, insects, and various kinds of seeds that grow luxuriantly in their native haunts. I also observed them eating the seed; or internal grains of ripe figs. They frequent gardens, building within a few paces of the house; are particularly attached to orangeries; and chant occasionally during the whole summer. Early in October they retire to more southern climates, being extremely susceptible of cold.

160. *FRINGILLA AMERICANA*, BONAPARTE.

EMBERIZA AMERICANA, WILS. — BLACK-THROATED BUNTING.

WILSON, PLATE III. FIG. II.

Of this bird I have but little to say. They arrive in Pennsylvania from the south about the middle of May; abound in the neighbourhood of Philadelphia, and seem to prefer level fields covered with rye-grass, timothy, or clover, where they build their nest, fixing it in the ground, and forming it of fine dried grass. The female lays five white eggs, sprinkled with specks and lines of black. Like most part of their genus, they are nowise celebrated for musical powers. Their whole song consists of five notes, or, more properly, of two notes; the first repeated twice and slowly, the second thrice, and rapidly, resembling *chip, chip, che che ché*. Of this ditty, such as it is, they are by no means parsimonious, for, from their first arrival for the space of two or three months, every level field of grain or grass is perpetually serenaded with *chip, chip, che che ché*. In their shape and manners they very much resemble the yellow-hammer of Britain (*E. citrinella*;) like them, they are fond of mounting to the top of

some half-grown tree, and there chirruping for half an hour at a time. In travelling through different parts of New York and Pennsylvania in spring and summer, wherever I came to level fields of deep grass, I have constantly heard these birds around me. In August they become mute; and soon after, that is, towards the beginning of September, leave us altogether.

The black-throated bunting is six inches and a half in length; the upper part of the head is of a dusky greenish yellow; neck, dark ash; breast, inside shoulders of the wing, line over the eye, and at the lower angle of the bill, yellow; chin, and space between the bill and eye, white; throat, covered with a broad, oblong, somewhat heart-shaped patch of black, bordered on each side with white; back, rump, and tail, ferruginous, the first streaked with black; wings, deep dusky, edged with a light clay colour; lesser coverts and whole shoulder of the wing, bright bay; belly and vent, dull white; bill, light blue, dusky above, strong and powerful for breaking seeds; legs and feet, brown; iris of the eye, hazel. The female differs from the male in having little or no black on the breast, nor streak of yellow over the eye; beneath the eye she has a dusky streak, running in the direction of the jaw. In all those I opened, the stomach was filled with various seeds, gravel, eggs of insects, and sometimes a slimy kind of earth or clay.

This bird has been figured by Latham, Pennant, and several others. The former speaks of a bird which he thinks is either the same, or nearly resembling it, that resides in summer in the country about Hudson's Bay, and is often seen associating in flights with the geese; * this habit, however, makes me suspect that it must be a different species; for while with us here the black-throated bunting is never gregarious; but is almost always seen singly, or in pairs, or at most, the individuals of one family together.

* LATHAM, *Synopsis, Supplement*, p. 158.

161. *FRINGILLA LEUCOPHRYS*, TEMMINCK.*EMBERIZA LEUCOPHRYS*, WILSON. — WHITE-CROWNED BUNTING.

WILSON, PLATE XXXI. FIG. IV.

THIS beautifully marked species is one of the rarest of its tribe in the United States, being chiefly confined to the northern districts, or higher interior parts of the country, except in severe winters, when some few wanderers appear in the lower parts of the State of Pennsylvania. Of three specimens of this bird, the only ones I have yet met with, the first was caught in a trap near the city of New York, and lived with me several months. It had no song, and, as I afterwards discovered, was a female. Another, a male, was presented to me by Mr Michael of Lancaster, Pennsylvania. The third, a male, and in complete plumage, was shot in the Great Pine Swamp, in the month of May. It appeared to me to be unsuspicious, silent, and solitary; flitting in short flights among the under-wood and piles of prostrate trees, torn up by a tornado, that some years ago passed through the swamp. All my endeavours to discover the female or nest were unsuccessful.

From the great scarcity of this species, our acquaintance with its manners is but very limited. Those persons who have resided near Hudson's Bay, where it is common, inform us, that it makes its nest in June, at the bottom of willows, and lays four chocolate-coloured eggs. Its flight is said to be short and silent; but, when it perches, it sings very melodiously.*

The white-crowned bunting is seven inches long, and ten inches in extent; the bill, a cinnamon brown; crown, from the front to the hind head, pure white, bounded on each side by a stripe of black proceeding from each nostril; and these again are bordered by a stripe of pure white passing over each eye to the hind head, where they meet; below this, another narrow

stripe of black passes from the posterior angle of the eye, widening as it descends to the hind head; chin, white; breast, sides of the neck, and upper parts of the same, very pale ash; back, streaked laterally with dark rusty brown and pale bluish white; wings, dusky, edged broadly with brown; the greater and lesser coverts tipped broadly with white, forming two handsome bands across the wing; tertials, black, edged with brown and white; rump and tail-coverts, drab, tipped with a lighter tint; tail, long, rounded, dusky, and edged broadly with drab; belly, white; vent, pale yellow ochre; legs and feet, reddish brown; eye, reddish hazel; lower eyelid, white.

The female may easily be distinguished from the male, by the white on the head being less pure, the black also less in extent, and the ash on the breast darker; she is also smaller in size.

There is a considerable resemblance between this species and the white-throated sparrow. Yet they rarely associate together; the latter remaining in the lower parts of Pennsylvania in great numbers, until the beginning of May, when they retire to the north and to the high inland regions to breed; the former inhabiting much more northern countries; and though said to be common in Canada, rarely visiting this part of the United States.

162. *FRINGILLA GRAMINEA*, GMELIN.

EMBERIZA GRAMINEA, WILSON. — BAY-WINGED BUNTING.

WILSON, PLATE XXXI. FIG. V.

THE manners of this bird bear great affinity to those of the common bunting of Britain. It delights in frequenting grass and clover fields, perches on the tops of the fences, singing, from the middle of April to the beginning of July, with a clear and pleasant note, in which particular it far excels its European relation. It is partially a bird of passage here, some leaving us, and others remaining with us during the winter. In

the month of March I observed them numerous in the lower parts of Georgia, where, according to Mr Abbot, they are only winter visitants. They frequent the middle of fields more than hedges or thickets; run along the ground like a lark, which they also resemble in the great breadth of their wings: they are timid birds; and rarely approach the farm house.

Their nest is built on the ground, in a grass or clover field, and formed of old withered leaves and dry grass; and lined with hair. The female lays four or five eggs of a grayish white. On the first week in May, I found one of their nests with four young, from which circumstance I think it probable that they raise two or more brood in the same season.

This bird measures five inches and three quarters in length, and ten inches and a half in extent; the upper parts are cinereous brown, mottled with deep brown or black; lesser wing-coverts, bright bay, greater, black, edged with very pale brown; wings, dusky, edged with brown; the exterior primary, edged with white; tail, subcuneiform, the outer feather white on the exterior edge, and tipped with white, the next tipped and edged for half an inch with the same, the rest, dusky, edged with pale brown; bill, dark brown above, paler below; round the eye is a narrow circle of white; upper part of the breast yellowish white, thickly streaked with pointed spots of black that pass along the sides; belly and vent, white; legs and feet, flesh coloured; third wing-feather from the body, nearly as long as the tip of the wing when shut.

I can perceive little or no difference between the colours and markings of the male and female.

163. *FRINGILLA PALUSTRIS*, WILSON. — SWAMP SPARROW.

WILSON, PLATE XXII. FIG. 1. ADULT MALE.

THE history of this obscure and humble species is short and uninteresting. Unknown or overlooked by the naturalists of Europe, it is now for the first time

introduced to the notice of the world. It is one of our summer visitants, arriving in Pennsylvania early in April, frequenting low grounds, and river courses; rearing two, and sometimes three, brood in a season; and returning to the south as the cold weather commences. The immense cypress swamps and extensive grassy flats of the Southern States, that border their numerous rivers, and the rich rice plantations, abounding with their favourite seeds and sustenance, appear to be the general winter resort, and grand annual rendezvous, of this and all the other species of sparrow that remain with us during summer. From the river Trent in North Carolina, to that of Savannah, and still farther south, I found this species very numerous; not flying in flocks, but skulking among the canes, reeds, and grass, seeming shy and timorous, and more attached to the water than any other of their tribe. In the month of April numbers pass through Pennsylvania to the northward, which I conjecture from the circumstance of finding them at that season in particular parts of the woods, where, during the rest of the year, they are not to be seen. The few that remain frequent the swamps, and reedy borders of our creeks and rivers. They form their nest in the ground, sometimes in a tussock of rank grass, surrounded by water, and lay four eggs of a dirty white, spotted with rufous. So late as the 15th of August, I have seen them feeding their young that were scarcely able to fly. Their principal food is grass seeds, wild oats, and insects. They have no song; are distinguished by a single chip or *cheep*, uttered in a rather hoarser tone than that of the song sparrow; flirt the tail as they fly; seldom or never take to the trees, but skulk from one low bush or swampy thicket to another.

The swamp sparrow is five inches and a half long, and seven inches and a half in extent; the back of the neck and front are black; crown, bright bay, bordered with black; a spot of yellowish white between the eye and nostril; sides of the neck and whole breast, dark ash; chin, white; a streak of black proceeds from

the lower mandible, and another from the posterior angle of the eye; back, black, slightly skirted with bay; greater coverts also black, edged with bay; wings and tail, plain brown; belly and vent, brownish white; bill, dusky above, bluish below; eyes, hazel; legs, brown; claws, strong and sharp, for climbing the reeds. The female wants the bay on the crown, or has it indistinctly; over the eye is a line of dull white.

164. *FRINGILLA ALBICOLLIS*, WILSON.

WHITE-THROATED SPARROW.

WILSON, PLATE XXIV. FIG. II.

THIS is the largest as well as handsomest of all our sparrows. It winters with the preceding species and several others in most of the States south of New England. From Connecticut to Savannah I found these birds numerous, particularly in the neighbourhood of the Roanoke river, and among the rice plantations. In summer they retire to the higher inland parts of the country, and also farther north, to breed. According to Pennant, they are also found at that season in Newfoundland. During their residence here in winter, they collect together in flocks, always preferring the borders of swampy thickets, creeks, and mill-ponds, skirted with alder bushes and long rank weeds, the seeds of which form their principal food. Early in spring, a little before they leave us, they have a few remarkably sweet and clear notes, generally in the morning a little after sunrise. About the 20th of April they disappear, and we see no more of them till the beginning or second week of October, when they again return; part to pass the winter with us; and part on their route farther south.

The length of the white-throated sparrow is six inches and a half, breadth, nine inches; the upper part of the back and the lesser wing-coverts are beautifully variegated with black, bay, ash, and light brown; a stripe of white passes from the base of the upper mandible to the hind head; this is bordered on each side

with a stripe of black; below this again is another of white passing over each eye, and deepening into orange yellow between that and the nostril; this is again bordered by a stripe of black proceeding from the hind part of the eye; breast, ash; chin, belly, and vent, white; tail, somewhat wedged; legs, flesh coloured; bill, a bluish horn colour; eye, hazel. In the female the white stripe on the crown is a light drab; the breast not so dark; the chin less pure; and the line of yellow before the eye scarce half as long as in the male. All the parts that are white in the male are in the female of a light drab colour.

165. *FRINGILLA SAVANNA*, WILSON. — SAVANNAH SPARROW.

WILSON, PLATE XXII. FIG. III. FEMALE.

THIS new species is an inhabitant of the low countries on the Atlantic coast, from Savannah, where I first discovered it, to the state of New York, and is generally resident in these places, though rarely found inland, or far from the sea-shore. I have since found these birds numerous on the sea-shore, in the State of New Jersey, particularly near Great Egg Harbour. A pair of them I presented to Mr Peale of this city, in whose noble collection they now occupy a place.

The female of the Savannah sparrow is five inches and a half long, and eight and a half in extent; the plumage of the back is mottled with black, bright bay, and whitish; chin, white; breast, marked with pointed spots of black, edged with bay, running in chains from each base of the lower mandible; sides, touched with long streaks of the same; temples, marked with a spot of delicate yellow; ear feathers, slightly tinged with the same; belly, white, and a little streaked; inside of the shoulders, and lining of the wing, pale yellowish; first and second rows of wing-coverts, tipped with whitish; secondaries next the body, pointed and very black, edged also with bay; tail, slightly forked, and without any white feathers; legs, pale flesh colour; hind claw, pretty long.

The very slight distinctions of colour which nature has drawn between many distinct species of this family of finches, render these minute and tedious descriptions absolutely necessary, that the particular species may be precisely discriminated.

166. *FRINGILLA SAVANNA*, WILSON. — SAVANNAH FINCH.

WILSON, PLATE XXXIV. FIG. IV. MALE.

THE female of this delicately marked sparrow has been already taken notice of. The present description is from a very beautiful male.

The length, five and a half inches; extent, eight and a half; bill, pale brown; eyebrows, Naples yellow; breast and whole lower parts, pure white, the former marked with small pointed spots of brown; upper parts, a pale whitish drab, mottled with reddish brown; wing-coverts, edged and tipped with white; tertials, black, edged with white and bay; legs, pale clay; ear feathers, tinged with Naples yellow. The female and young males are less, and much darker.

This is, probably, the most timid of all our sparrows. In winter it frequents the sea-shores; but, as spring approaches, migrates to the interior, as I have lately discovered, building its nest in the grass nearly in the same form, though with fewer materials, as that of the bay-winged bunting. On the 23d of May, I found one of these at the root of a clump of rushes in a grass field, with three young, nearly ready to fly. The female counterfeited lameness, spreading its wings and tail, and using many affectionate stratagems to allure me from the place. The eggs I have never seen.

167. *FRINGILLA PUSILLA*. — FIELD SPARROW.

WILSON, PLATE XVI. FIG. II.

THIS is the smallest of all our sparrows, and, in Pennsylvania, is generally migratory. It arrives early in April, frequents dry fields covered with long grass, builds a small nest on the ground, generally at the foot

of a brier; lines it with horse hair; lays six eggs, so thickly sprinkled with ferruginous, as to appear altogether of that tint; and raises two, and often three, brood in a season. It is more frequently found in the middle of fields and orchards than any of the other species, which usually lurk along hedgerows. It has no song, but a kind of chirruping, not much different from the chirpings of a cricket. Towards fall, they assemble in loose flocks, in orchards and corn fields, in search of the seeds of various rank weeds; and are then very numerous. As the weather becomes severe, with deep snow, they disappear. In the lower parts of North and South Carolina, I found this species in multitudes in the months of January and February. When disturbed, they take to the bushes, clustering so close together, that a dozen may easily be shot at a time. I continued to see them equally numerous through the whole lower parts of Georgia; from whence, according to Mr Abbot, they all disappear early in the spring.

None of our birds have been more imperfectly described than that family of the finch tribe usually called sparrows. They have been considered as too insignificant for particular notice, yet they possess distinct characters, and some of them peculiarities, well worthy of notice. They are innocent in their habits, subsisting chiefly on the small seeds of wild plants, and seldom injuring the property of the farmer. In the dreary season of winter, some of them enliven the prospect by hopping familiarly about our doors, humble pensioners on the sweepings of the threshold.

The present species has never before, to my knowledge, been described. It is five inches and a quarter long, and eight inches broad; bill and legs, a reddish cinnamon colour; upper part of the head, deep chestnut, divided by a slight streak of drab, widening as it goes back; cheeks, line over the eye, breast, and sides under the wings, a brownish clay colour, lightest on the chin, and darkest on the ear feathers; a small streak of brown at the lower angle of the bill; back, streaked

with black, drab, and bright bay, the latter being generally centred with the former; rump, dark drab, or cinereous; wings, dusky black, the primaries edged with whitish, the secondaries bordered with bright bay; greater wing-coverts, black, edged and broadly tipped with brownish white; tail, dusky black, edged with clay colour: male and female nearly alike in plumage; the chestnut on the crown of the male rather brighter.

168. *FRINGILLA ARBOREA*, WILSON.

FRINGILLA CANADENSIS, LATHAM. — TREE SPARROW.

WILSON, PLATE XVI. FIG. III. — EDINBURGH COLLEGE MUSEUM.

THIS sparrow is a native of the north, who takes up his winter quarters in Pennsylvania, and most of the northern States, as well as several of the southern ones. He arrives here about the beginning of November, and leaves us again early in April; associates, in flocks, with the snow birds; frequents sheltered hollows, thickets, and hedgerows, near springs of water; and has a low warbling note, scarcely audible at the distance of twenty or thirty yards. If disturbed, takes to trees, like the white-throated sparrow; but, contrary to the habit of most of the others, who are inclined rather to dive into thickets. Mr Edwards has erroneously represented this as the female of the mountain sparrow; but that judicious and excellent naturalist, Mr Pennant, has given a more correct account of it, and informs us, that it inhabits the country bordering on Hudson's bay during summer; comes to Severn settlement in May; advances farther north to breed; and returns in autumn on its way southward. It also visits Newfoundland.*

By some of our own naturalists, this species has been confounded with the chipping sparrow, which it very much resembles, but is larger and handsomer, and is never found with us in summer. The former departs for the south about the same time that the latter

* *Arctic Zoology*, vol. ii, p. 373.

arrives from the north ; and, from this circumstance, and their general resemblance, has arisen the mistake.

The tree sparrow is six inches and a half long, and nine and a half in extent ; the whole upper part of the head is of a bright reddish chestnut, sometimes slightly skirted with gray ; from the nostrils, over the eye, passes a white strip, fading into pale ash, as it extends back ; sides of the neck, chin, and breast, very pale ash ; the centre of the breast marked with an obscure spot of dark brown ; from the lower angle of the bill, proceeds a slight streak of chestnut ; sides, under the wings, pale brown ; back, handsomely streaked with pale drab, bright bay, and black ; lower part of the back and rump, brownish drab ; lesser wing-coverts, black, edged with pale ash ; wings, black, broadly edged with bright bay ; the first and second row of coverts, tipped with pure white ; tail, black, forked, and exteriorly edged with dull white ; belly and vent, brownish white ; bill, black above, yellow below ; legs, a brownish clay colour ; feet, black. The female is about half an inch shorter ; the chestnut or bright bay on the wings, back, and crown, is less brilliant ; and the white on the coverts narrower, and not so pure. These are all the differences I can perceive.

109. *TRINGILLA MELODIA*, WILSON. — SONG SPARROW.

WILSON, PLATE XVI. FIG. IV.

So nearly do many species of our sparrows approximate to each other in plumage, and so imperfectly have they been taken notice of, that it is absolutely impossible to say, with certainty, whether the present species has ever been described or not. And yet, of all our sparrows, this is the most numerous, the most generally diffused over the United States, and by far the earliest, sweetest, and most lasting songster. It may be said to be partially migratory, many passing to the south in the month of November ; and many of them still remaining with us, in low, close, sheltered meadows and swamps, during the whole of winter. It is the first

singing bird in spring, taking precedence even of the pewee and bluebird. Its song continues occasionally during the whole summer and fall, and is sometimes heard even in the depth of winter. The notes, or chant, are short, but very sweet, resembling the beginning of the canary's song, and frequently repeated, generally from the branches of a bush or small tree, where it sits chanting for an hour together. It is fond of frequenting the borders of rivers, meadows, swamps, and such like watery places; and, if wounded, and unable to fly, will readily take to the water, and swim with considerable rapidity. In the great cypress swamps of the southern States, in the depth of winter, I observed multitudes of these birds mixed with several other species; for these places appear to be the grand winter rendezvous of almost all our sparrows. I have found this bird in every district of the United States, from Canada to the southern boundaries of Georgia; but Mr Abbot informs me, that he knows of only one or two species that remain in that part of Georgia during the summer.

The song sparrow builds in the ground, under a tuft of grass; the nest is formed of fine dry grass, and lined with horse hair; the eggs are four or five, thickly marked with spots of reddish brown, on a white, sometimes bluish white, ground; if not interrupted, he raises three brood in the season. I have found his nest with young as early as the 26th of April, and as late as the 12th of August. What is singular, the same bird often fixes his nest in a cedar tree, five or six feet from the ground. Supposing this to have been a variety, or different species, I have examined the bird, nest, and eggs, with particular care, several times, but found no difference. I have observed the same accidental habit in the red-winged blackbird, which sometimes builds among the grass, as well as on alder bushes.

This species is six inches and a half long, and eight and a half in extent; upper part of the head, dark chestnut, divided, laterally, by a line of pale dirty white; spot at each nostril, yellow ochre; line over the eye,

inclining to ash; chin, white; streak from the lower mandible, slit of the mouth, and posterior angle of the eye, dark chestnut; breast, and sides under the wings, thickly marked with long pointed spots of dark chestnut, centred with black, and running in chains; belly, white; vent, yellow ochre, streaked with brown; back, streaked with black, bay, and pale ochre; tail, brown, rounded at the end, the two middle feathers streaked down their centres with black; legs, flesh coloured; wing-coverts, black, broadly edged with bay, and tipped with yellowish white; wings, dark brown. The female is scarcely distinguishable by its plumage from the male. The bill in both, horn coloured.

170. *FRINGILLA SOCIALIS*, WILSON. — CHIPPING SPARROW.

WILSON, PLATE XVI. FIG. V.

THIS species, though destitute of the musical talents of the former, is, perhaps, more generally known, because more familiar, and even domestic. He inhabits, during summer, the city, in common with man, building in the branches of the trees with which our streets and gardens are ornamented; and gleaning up crumbs from our yards, and even our doors, to feed his more advanced young with. I have known one of these birds attend regularly every day, during a whole summer, while the family were at dinner, under a piazza, fronting the garden, and pick up the crumbs that were thrown to him. This sociable habit, which continues chiefly during the summer, is a singular characteristic. Towards the end of summer he takes to the fields and hedges, until the weather becomes severe, with snow, when he departs for the south.

The chipping bird builds his nest most commonly in a cedar bush, and lines it thickly with cow hair. The female lays four or five eggs, of a light blue colour, with a few dots of purplish black near the great end.

This species may easily be distinguished from the four preceding ones, by his black bill and frontlet, and by his familiarity in summer; yet in the month of

August and September, when they moult their feathers, the black on the front, and partially on the bill, disappears. The young are also without the black during the first season.

The chipping sparrow is five inches and a quarter long, and eight inches in extent; frontlet, black; chin, and line over the eye, whitish; crown, chestnut; breast and sides of the neck, pale ash; bill, in winter, black, in summer, the lower mandible flesh coloured; rump, dark ash; belly and vent, white; back, variegated with black and bright bay; wings, black, broadly edged with bright chestnut; tail, dusky, forked, and slightly edged with pale ochre; legs and feet, a pale flesh colour. The female differs in having less black on the frontlet, and the bay duller. Both lose the black front in moulting.

171. *FRINGILLA NIVALIS*, WILSON. — SNOW BIRD.

WILSON, PLATE XVI. FIG. VI. — EDINBURGH COLLEGE MUSEUM.

This well known species, small and insignificant as it may appear, is, by far, the most numerous, as well as the most extensively disseminated, of all the feathered tribes that visit us from the frozen regions of the north. Their migrations extending from the arctic circle, and, probably, beyond it, to the shores of the Gulf of Mexico, spreading over the whole breadth of the United States, from the Atlantic Ocean to Louisiana: how much farther westward, I am unable to say. About the 20th of October they make their first appearance in those parts of Pennsylvania east of the Alleghany Mountains. At first they are most generally seen on the borders of woods among the falling and decayed leaves, in loose flocks of thirty or forty together, always taking to the trees when disturbed. As the weather sets in colder, they approach nearer the farm-house and villages; and on the appearance of, what is usually called, falling weather, assemble in larger flocks, and seem doubly diligent in searching for food. This increased activity is generally a sure prognostic of a storm. When deep

snow covers the ground, they become almost half domesticated. They collect about the barn, stables, and other outhouses, spread over the yard, and even round the steps of the door; not only in the country and villages, but in the heart of our large cities; crowding around the threshold early in the morning, gleaning up the crumbs; appearing very lively and familiar. They have also recourse, at this severe season, when the face of the earth is shut up from them, to the seeds of many kinds of weeds that still rise above the snow, in corners of fields, and low, sheltered situations, along the borders of creeks and fences, where they associate with several species of sparrows, particularly the four last mentioned. They are, at this time, easily caught with almost any kind of trap; are generally fat, and, it is said, are excellent eating.

I cannot but consider this bird as the most numerous of its tribe of any within the United States. From the northern parts of the district of Maine, to the Ogechee river in Georgia, a distance, by the circuitous route in which I travelled, of more than 1800 miles, I never passed a day, and scarcely a mile, without seeing numbers of these birds, and frequently large flocks of several thousands. Other travellers with whom I conversed, who had come from Lexington, in Kentucky, through Virginia, also declared that they found these birds numerous along the whole road. It should be observed, that the roadsides are their favourite haunts, where many rank weeds that grow along the fences furnish them with food, and the road with gravel. In the vicinity of places where they were most numerous, I observed the small American sparrow hawk, and several others of his tribe, watching their opportunity, or hovering cautiously around, making an occasional sweep among them, and retiring to the bare branches of an old cypress, to feed on their victim. In the month of April, when the weather begins to be warm, they are observed to retreat to the woods, and to prefer the shaded sides of hills and thickets; at which time the males warble out a few very low sweet notes, and are

almost perpetually pursuing and fighting with each other. About the 20th of April they take their leave of our humble regions, and retire to the north, and to the high ranges of the Alleghany, to build their nests, and rear their young. In some of those ranges, in the interior of Virginia, and northward about the waters of the west branch of the Susquehanna, they breed in great numbers. The nest is fixed in the ground, or among the grass, sometimes several being within a small distance of each other. According to the observations of the gentlemen residing at Hudson bay factory, they arrive there about the beginning of June, stay a week or two, and proceed farther north to breed. They return to that settlement in the autumn, on their way to the south.

In some parts of New England, I found the opinion pretty general, that the snow bird, in summer, is transformed into the small chipping sparrow, which we find so common in that season. I had convinced a gentleman of New York of his mistake in this matter, by taking him to the house of a Mr Gautier, there, who amuses himself by keeping a great number of native as well as foreign birds. This was in the month of July, and the snow bird appeared there in the same coloured plumage he usually has. Several individuals of the chipping sparrow were also in the same apartment. The evidence was, therefore, irresistible; but, as I had not the same proofs to offer to the eye in New England, I had not the same success.

There must be something in the temperature of the blood or constitution of this bird, which unfits it for residing, during summer, in the lower parts of the United States; as the country here abounds with a great variety of food, of which, during its stay here, it appears to be remarkably fond. Or, perhaps, its habit of associating in such numbers to breed, and building its nest with so little precaution, may, to ensure its safety, require a solitary region, far from the intruding footsteps of man.

The snow bird is six inches long, and nine in extent ;

the head, neck, and upper parts of the breast, body, and wings, are of a deep slate colour; the plumage sometimes skirted with brown, which is the colour of the young birds; the lower parts of the breast, the whole belly and vent, are pure white; the three secondary quill feathers next the body, are edged with brown, the primaries with white; the tail is dusky slate, a little forked, the two exterior feathers wholly white, which are flirled out as it flies, and appear then very prominent; the bill and legs are of a reddish flesh colour; the eye, bluish black. The female differs from the male, in being considerably more brown. In the depth of winter, the slate colour of the male becomes more deep, and much purer, the brown disappearing nearly altogether.

172. *FRINGILLA PASSERINA*, WILSON.

YELLOW-WINGED SPARROW.

WILSON, PLATE XXIV. FIG. V.

THIS small species is now for the first time introduced to the notice of the public. I can, however, say little towards illustrating its history, which, like that of many individuals of the human race, would be but a dull detail of humble obscurity. It inhabits the lower parts of New York and Pennsylvania; is very numerous on Staten Island, where I first observed it; and occurs also along the sea coast of New Jersey. But, though it breeds in each of these places, it does not remain in any of them during the winter. It has a short, weak, interrupted chirrup, which it occasionally utters from the fences and tops of low bushes. Its nest is fixed on the ground among the grass; is formed of loose dry grass, and lined with hair and fibrous roots of plants. The eggs are five, of a grayish white sprinkled with brown. On the 1st of August I found the female sitting.

I cannot say what extent of range this species has, having never met with it in the southern States; though

I have no doubt that it winters there, with many others of its tribe. It is the scarcest of all our summer sparrows. Its food consists principally of grass seeds, and the larvæ of insects, which it is almost continually in search of among the loose soil and on the surface, consequently it is more useful to the farmer than otherwise.

The length of this species is five inches, extent eight inches; upper part of the head, blackish, divided by a slight line of white; hind head and neck above, marked with short lateral touches of black and white; a line of yellow extends from above the eye to the nostril; cheeks, plain brownish white; back, streaked with black, brown, and pale ash; shoulders of the wings, above and below, and lesser coverts, olive yellow; greater wing-coverts, black, edged with pale ash; primaries, light drab; tail, the same, the feathers rather pointed at the ends, the outer ones white; breast, plain yellowish white, or pale ochre, which distinguishes it from the Savannah sparrow; belly and vent, white; three or four slight touches of dusky at the sides of the breast; legs, flesh colour; bill, dusky above, pale bluish white below. The male and female are nearly alike in colour.

173. *FRINGILLA CAUDACUTA*, WILSON.

SHARP-TAILED SPARROW.

WILSON, PLATE XXXIV. FIG. III.

A BIRD of this denomination is described by Turton, *Syst.* p. 562; but which by no means agrees with the present. This, however, may be the fault of the describer, as it is said to be a bird of Georgia; unwilling, therefore, to multiply names unnecessarily, I have adopted this appellation.

This new (as I apprehend it) and beautiful species is an associate of the sea-side finch, inhabits the same places, lives on the same food, and resembles it so much in manners, that, but for their dissimilarity in some

essential particulars, I would be disposed to consider them as the same in a different state of plumage. They are much less numerous than the preceding, and do not run with equal celerity.

The sharp-tailed finch is five inches and a quarter long, and seven inches and a quarter in extent; bill, dusky; auriculars, ash; from the bill over the eye, and also below it, run two broad stripes of brownish orange; chin, whitish; breast, pale buff, marked with small pointed spots of black; belly, white; vent, reddish buff; from the base of the upper mandible a broad stripe of pale ash runs along the crown and hind head, bordered on each side by one of blackish brown; back, a yellowish brown olive, some of the feathers curiously edged with semicircles of white; sides under the wings, buff, spotted with black; wing-coverts and tertials, black, broadly edged with light reddish buff; tail, cuneiform, short; all the feathers sharp pointed; belly, white; vent, dark buff; legs, a yellow clay colour; irides, hazel.

I examined many of these birds, and found but little difference in the colour and markings of their plumage.

174. *FRINGILLA MARITIMA*, WILSON. — SEA-SIDE FINCH.

WILSON, PLATE XXXIV. FIG. II.

Of this bird I can find no description. It inhabits the low, rush-covered sea islands along our Atlantic coast, where I first found it; keeping almost continually within the boundaries of tide water, except when long and violent east or northeasterly storms, with high tides, compel it to seek the shore. On these occasions it courses along the margin, and among the holes and interstices of the weeds and sea-wrack, with a rapidity equalled only by the nimblest of our sandpipers, and very much in their manner. At these times also it roosts on the ground, and runs about after dusk.

This species derives its whole subsistence from the sea. I examined a great number of individuals by dissection, and found their stomachs universally filled with

fragments of shrimps, minute shell fish, and broken limbs of small sea crabs. Its flesh, also, as was to be expected, tasted of fish, or was what is usually termed sedgy. Amidst the recesses of these wet sea marshes, it seeks the rankest growth of grass and sea weed, and climbs along the stalks of the rushes with as much dexterity as it runs along the ground, which is rather a singular circumstance, most of our climbers being rather awkward at running.

The sea-side finch is six inches and a quarter long, and eight and a quarter in extent; chin, pure white, bordered on each side by a stripe of dark ash, proceeding from each base of the lower mandible; above that is another slight streak of white; from the nostril over the eye extends another streak, which immediately over the lores is rich yellow, bordered above with white, and ending in yellow olive; crown, brownish olive, divided laterally by a stripe of slate blue, or fine light ash; breast, ash, streaked with buff; belly, white; vent, buff coloured, and streaked with black; upper parts of the back, wings, and tail, a yellowish brown olive, intermixed with very pale blue; greater and lesser coverts, tipped with dull white; edge of the bend of the wing, rich yellow; primaries edged with the same immediately below their coverts; tail, cuneiform, olive brown, centred with black; bill, dusky above, pale blue below, longer than is usual with finches; legs and feet, a pale bluish white; irides, hazel. Male and female nearly alike in colour.

SUBGENUS II. — *CARDUELLIS*, BRISSON.

175. *FRINGILLA TRISTIS*, LINNÆUS AND WILSON.

YELLOW BIRD, OR GOLDFINCH.

WILSON, PLATE I. FIG. II. — ADULT MALE, IN SPRING DRESS.

EDINBURGH COLLEGE MUSEUM.

THIS bird is four inches and a half in length, and eight inches in extent, of a rich lemon yellow, fading into white towards the rump and vent. The wings

and tail are black, the former tipped and edged with white, the interior webs of the latter are also white; the fore part of the head is black, the bill and legs of a reddish cinnamon colour. This is the summer dress of the male; but in the month of September the yellow gradually changes to a brown olive, and the male and female are then nearly alike. They build a very neat and delicately formed little nest, which they fasten to the twigs of an apple tree, or to the strong branching stalks of hemp, covering it on the outside with pieces of lichen, which they find on the trees and fences; these they glue together with their saliva, and afterwards line the inside with the softest downy substances they can procure. The female lays five white eggs, faintly marked at the greater end; and they generally raise two broods in a season. The males do not arrive at their perfect plumage until the succeeding spring; wanting, during that time, the black on the head, and the white on the wings being of a cream colour. In the month of April they begin to change their winter dress, and, before the middle of May, appear in brilliant yellow: the whole plumage towards its roots is of a dusky bluish black.

The song of the yellow bird resembles that of the goldfinch of Britain; but is in general so weak as to appear to proceed from a considerable distance, when perhaps the bird is perched on the tree over your head. I have, however, heard some sing in cages with great energy and animation. On their first arrival in Pennsylvania, in February, and until early in April, they associate in flocks, frequently assembling in great numbers on the same tree to bask and dress themselves in the morning sun, singing in concert for half an hour together; the confused mingling of their notes forming a kind of harmony not at all unpleasant.

About the last of November, and sometimes sooner, they generally leave Pennsylvania, and proceed to the south; some, however, are seen even in the midst of the severest winters. Their flight is not direct, but in alternate risings and sinkings; twittering as they fly,

at each successive impulse of the wings. During the latter part of summer they are almost constant visitants in our gardens, in search of seeds, which they dislodge from the husk with great address, while hanging, frequently head downwards, in the manner of the titmouse. From these circumstances, as well as from their colour, they are very generally known, and pass by various names expressive of their food, colour, &c. such as thistle bird, lettuce bird, salad bird, yellow bird, &c. The gardeners, who supply the city of Philadelphia with vegetables, often take them in trap-cages, and expose them for sale in market. They are easily familiarized to confinement, and feed with seeming indifference a few hours after being taken.

The great resemblance which the yellow bird bears to the canary has made many persons attempt to pair individuals of the two species together. An ingenious French gentleman, who resides in Pottsgrove, Pennsylvania, assured me, that he had tried the male yellow bird with the female canary, and the female yellow bird with the male canary, but without effect, though he kept them for several years together, and supplied them with proper materials for building. Mr Hassey of New York, however, who keeps a great number of native as well as foreign birds, informed me, that a yellow bird paired with a canary in his possession, and laid eggs, but did not hatch, which he attributed to the lateness of the season.

These birds, as has been before observed, (vol. i. p. 261,) were seen by Mr McKenzie, in his route across the continent of North America, as far north as lat. 54°; they are numerous in all the Atlantic States north of the Carolinas; abound in Mexico, and are also found in great numbers in the savannahs of Guiana.

The seeds of the lettuce, thistle, hemp, &c. are their favourite food, and it is pleasant to observe a few of them at work in a calm day, detaching the thistle down, in search of the seeds, making it fly in clouds around them.

The American goldfinch has been figured and des-

cribed by Mr Catesby,* who says that the back part of the head is a dirty green, &c. This description must have been taken while the bird was changing its plumage. At the approach of fall, not only the rich yellow fades into a brown olive; but the spot of black on the crown and forehead becomes also of the same olive tint. Mr Edwards has also erred in saying that the young male bird has the spot of black on the forehead; this it does not receive until the succeeding spring. The figure in Edwards is considerably too large; and that by Catesby has the wings and tail much longer than in nature, and the body too slender,—very different from the true form of the living bird. Mr Pennant also tells us, that the legs of this species are black; they are, however, of a bright cinnamon colour; but the worthy naturalist, no doubt, described them as he found them in the dried and stuffed skin, shrivelled up and blackened with decay; and thus too much of our natural history has been delineated.

176. *FRINGILIA PINUS*, WILSON.—PINE FINCH.

WILSON, PLATE XVII. FIG. 1.—IN WINTER PLUMAGE.

THIS little northern stranger visits us in the month of November, and seeks the seeds of the black alder, on the borders of swamps, creeks, and rivulets. As the weather becomes more severe, and the seeds of the *pinus Canadensis* are fully ripe, the seabirds collect in larger flocks, and take up their residence, almost exclusively, among these trees. In the gardens of Bush Hill, in the neighbourhood of Philadelphia, a flock of two or three hundred of these birds have regularly wintered many years; where a noble avenue of pine trees, and walks covered with fine white gravel, furnish them with abundance through the winter. Early in March they disappear, either to the north, or to the pine woods that cover many lesser ranges of the Alleghany. While here, they are often so tame as to allow

* *Nat. Hist. Car.* vol. i, p. 43.

you to walk within a few yards of the spot where a whole flock of them are sitting. They flutter among the branches, frequently hanging by the cones, and uttering a note almost exactly like that of the goldfinch, (*F. tristis*.) I have not a doubt but this bird appears in a richer dress in summer in those places where he breeds, as he has so very great a resemblance to the bird above mentioned, with whose changes we are well acquainted.

The length of this species is four inches; breadth, eight inches; upper part of the head, the neck, and back, a dark flaxen colour, streaked with black; wings, black, marked with two rows of dull white, or cream colour; whole wing quills, under the coverts, rich yellow, appearing even when the wings are shut; rump and tail-coverts, yellowish, streaked with dark brown; tail feathers, rich yellow from the roots half way to the tips, except the two middle ones, which are blackish brown, slightly edged with yellow; sides under the wings, of a cream colour, with long streaks of black; breast, a light flaxen colour, with small streaks or pointed spots of black; legs, purplish brown; bill, a dull horn colour; eyes, hazel. The female was scarcely distinguishable by its plumage from the male. The New York siskin of Pennant,* appears to be only the yellow bird (*fringilla tristis*) in his winter dress.

This bird has a still greater resemblance to the siskin of Europe, (*F. spinus*,) and may, perhaps, be the species described by Turton,† as the black Mexican siskin, which he says is varied above with black and yellowish, and is white beneath, and which is also said to sing finely. This change from flaxen to yellow is observable in the goldfinch; and no other two birds of our country resemble each other more than these do in their winter dresses.

* *Arctic Zoology*, p. 372, No. 243.

† TURTON, vol. i, p. 560.

177. *FRINGILLA LINARIA*, LINN. AND WILS. — LESSER RED-POLL.

WILSON, PLATE XXX. FIG. IV. MALE. — EDINBURGH COLLEGE MUSEUM.

THIS bird corresponds so exactly in size, figure, and colour of plumage, with that of Europe of the same name, as to place their identity beyond a doubt. They inhabit, during summer, the most northern parts of Canada, and still more remote northern countries, from whence they migrate at the commencement of winter. They appear in the Genesee country with the first deep snow, and on that account are usually called by the title of snow birds. As the female is destitute of the crimson on the breast and forehead, and the young birds do not receive that ornament till the succeeding spring, such a small proportion of the individuals that form these flocks are marked with red, as to induce a general belief among the inhabitants of those parts that they are two different kinds associated together. Flocks of these birds have been occasionally seen in severe winters in the neighbourhood of Philadelphia. They seem particularly fond of the seeds of the common alder, and hang, head downwards, while feeding, in the manner of the yellow bird. They seem extremely unsuspicious at such times, and will allow a very near approach without betraying any symptoms of alarm.

The specimen from which this description was taken, was shot, with several others of both sexes, in Seneca county, between the Seneca and Cayuga lakes. Some individuals were occasionally heard to chant a few interrupted notes, but no satisfactory account can be given of their powers of song.

This species extends throughout the whole northern parts of Europe, is likewise found in the remote wilds of Russia, was seen by Steller in Kamtschatka, and probably inhabits corresponding climates round the whole habitable parts of the northern hemisphere. In the Highlands of Scotland they are common, building often on the tops of the heath, sometimes in a low furze bush, like the common linnet, and sometimes on

the ground. The nest is formed of light stalks of dried grass, intermixed with tufts of wool, and warmly lined with feathers. The eggs are usually four, white, sprinkled with specks of reddish.

[* Contrary to the usual practice of Mr Wilson, he omitted to furnish a *particular* description of this species. But this supplementary notice would not have been considered necessary, if our author had not fallen into a mistake respecting the markings of the female and the young male; the former of which he describes as "destitute of the crimson on the forehead," and the latter "not receiving that ornament till the succeeding spring." When Mr Wilson procured his specimens, it was in the autumn, previously to their receiving their perfect winter dress; and he was never afterwards aware of his error, owing to the circumstance of these birds seldom appearing in the neighbourhood of Philadelphia. Considerable flocks of them, however, have visited us this winter (1813-14;) and we have been enabled to procure several fine specimens of both sexes, from the most perfect of which we have taken the following description. We will add, that having had the good fortune to observe a flock, consisting of nearly an hundred, within a few feet of them, as they were busily engaged in picking the seeds of the wild orache,† we can, with confidence, assert, that they *all* had the red patch on the crown, but there were very few which had the red rump and breast; the young males, it is probable, are not thus marked until the spring, and the females are destitute of that ornament altogether.

The lesser red-poll is five inches and a quarter in length, and eight inches and a half in breadth; the bill is pale yellow, ridged above and below with dark horn colour, the upper mandible projecting somewhat over

* From this to the end of the article, enclosed within brackets, is an addition to Wilson's article by Mr Ord, editor of the 8th and 9th volumes of the American edition of the *Ornithology*.

† *Atriplex hastata*, Linn.

the lower at the tip ; irides, dark hazel ; the nostrils are covered with recumbent, hair-like feathers, of drab colour ; a line of brown extends from the eyes, and encircles the base of the bill, forming, in some specimens, a patch below the chin ; the crown is ornamented with a pretty large spot of deep shining crimson ; the throat, breast, and rump stained with the same, but of a more delicate red ; the belly is of a very pale ash, or dull white ; the sides are streaked with dusky, the whole upper parts are brown or dusky, the plumage edged with yellowish white and pale ash, the latter most predominant near the rump ; wings and tail dusky, the latter is forked, and consists of twelve feathers edged with white ; the primaries are very slightly tipped and edged with white ; the secondaries more so ; the greater and lesser coverts are also tipped with white, forming the bars across the wings ; thighs, cinereous ; legs and feet, black : hind claw, considerably hooked, and longer than the rest. The female is less bright in her plumage above ; and her under parts incline more to an ash colour ; the spot on her crown is of a golden crimson, or reddish saffron colour. One male specimen was considerably larger than the rest ; it measured five inches and three quarters in length, and nine inches and a quarter in extent ; the breast and rump were tawny ; its claws were uncommonly long, the hind one measured nearly three eighths of an inch ; and the spot on the crown was of a darker hue than that of the rest.

The call of this bird exactly resembles that of the *fringilla tristis*, or common yellow bird of Pennsylvania. The red-polls linger in the neighbourhood of Philadelphia until about the middle of April ; but whither they retire for the business of incubation, we cannot determine. In common with almost all our finches, the red-polls become very fat, and are then accounted delicious eating. During the last winter, many hundreds of them were exposed to sale in the Philadelphia market, and were readily purchased by those epicures, whose love of variety permits no delicacy to escape them.]

SUBGENUS III.—*FRINGILLA*, VIEILL.178. *FRINGILLA ILIACA*, MUREM.*FRINGILLA RUFA* (*FERRUGINEA*), WILSON.

FOX-COLOURED SPARROW.

WILSON, PLATE XXII. FIG. IV.—EDINBURGH COLLEGE MUSEUM.

THIS plump and pretty species arrives in Pennsylvania from the north about the 20th of October; frequents low, sheltered thickets; associates in little flocks of ten or twelve; and is almost continually scraping the ground, and rustling among the fallen leaves. I found this bird numerous in November among the rich cultivated flats that border the river Connecticut; and was informed that it leaves those places in spring. I also found it in the northern parts of the State of Vermont. Along the borders of the great reed and cypress swamps of Virginia, and North and South Carolina, as well as around the rice plantations, I observed this bird very frequently. They also inhabit Newfoundland.* They are rather of a solitary nature, seldom feeding in the open fields, but generally under thickets, or among tall rank weeds on the edges of fields. They sometimes associate with the snow bird, but more generally keep by themselves. Their manners very much resemble those of the red-eyed, or towhee bunting; they are silent, tame, and unsuspicious. They have generally no other note while here than a *shep, shep*; yet I suspect they have some song in the places where they breed; for I once heard a single one, a little before the time they leave us, warble out a few very sweet low notes.

The fox-coloured sparrow is six inches long, and nine and a quarter broad; the upper part of the head and neck is cinereous, edged with rust colour; back, handsomely mottled with reddish brown, and cinereous;

* PENNANT.

wings and tail, bright ferruginous; the primaries, dusky within and at the tips, the first and second row of coverts, tipped with white; breast and belly, white; the former, as well as the ear feathers, marked with large blotches of bright bay, or reddish brown, and the beginning of the belly with little arrow-shaped spots of black; the tail-coverts and tail are a bright fox colour; the legs and feet, a dirty brownish white, or clay colour, and very strong; the bill is strong, dusky above and yellow below; iris of the eye, hazel. The chief difference in the female is, that the wings are not of so bright a bay, inclining more to a drab; yet this is scarcely observable, unless by a comparison of the two together. They are generally very fat, live on grass seeds, eggs of insects, and gravel.

179. *FRINGILLA ERYTHROPHALMA*, LINNÆUS.

EMBERIZA ERYTHROPHALMA, WILSON.—TOWHE BUNTING.

WILSON, PLATE X, FIG. V.

THIS is a very common, but humble and inoffensive species, frequenting close sheltered thickets, where it spends most of its time in scratching up the leaves for worms, and for the larvæ and eggs of insects. It is far from being shy, frequently suffering a person to walk round the bush or thicket where it is at work, without betraying any marks of alarm, and when disturbed, uttering the notes *tow-hè* repeatedly. At times the male mounts to the top of a small tree, and chants his few simple notes for an hour at a time. These are loud, not unmusical, something resembling those of the yellow-hammer of Britain, but more mellow, and more varied. He is fond of thickets with a southern exposure, near streams of water, and where there is plenty of dry leaves; and is found, generally, over the whole United States. He is not gregarious, and you seldom see more than two together. About the middle or 20th of April, they arrive in Pennsylvania, and begin building about the first week in May. The nest is fixed on the ground

among the dry leaves, near, and sometimes under, a thicket of briars, and is large and substantial. The outside is formed of leaves and pieces of grape-vine bark, and the inside, of fine stalks of dried grass, the cavity completely sunk beneath the surface of the ground, and sometimes half covered above with dry grass or hay. The eggs are usually five, of a pale flesh colour, thickly marked with specks of rufous, most numerous near the great end.

The young are produced about the beginning of June, and a second brood commonly succeeds in the same season. This bird rarely winters north of the State of Maryland, retiring from Pennsylvania to the south about the 12th of October. Yet in the middle districts of Virginia, and thence south to Florida, I found it abundant during the months of January, February, and March. Its usual food is obtained by scratching up the leaves; it also feeds, like the rest of its tribe, on various hard seeds and gravel; but rarely commits any depredations on the harvest of the husbandman, generally preferring the woods, and traversing the bottom of fences sheltered with briars. He is generally very plump and fat; and, when confined in a cage, soon becomes familiar. In Virginia, he is called the bulfinch; in many places, the towhee bird; in Pennsylvania, the chewink, and by others, the swamp robin. He contributes a little to the harmony of our woods in spring and summer; and is remarkable for the cunning with which he conceals his nest. He shews great affection for his young, and the deepest marks of distress on the appearance of their mortal enemy the black snake.

The specific name which Linnæus has bestowed on this bird, is deduced from the colour of the iris of its eye, which, in those that visit Pennsylvania, is dark red. But I am suspicious that this colour is not permanent, but subject to a periodical change. I examined a great number of these birds in the month of March, in Georgia, every one of which had the iris of the eye white. Mr Abbot of Savannah assured me, that at this season, every one of these birds he shot had the iris

white, while at other times it was red; and Mr Elliot, of Beaufort, a judicious naturalist, informed me, that in the month of February he killed a towhe bunting with one eye red and the other white! It should be observed, that the iris of the young bird's eye is of a chocolate colour during its residence in Pennsylvania; perhaps this may brighten into a white during winter, and these may have been all birds of the preceding year, which had not yet received the full colour of the eye.

The towhe bunting is eight inches and a half long, and eleven broad; above, black, which also descends, rounding on the breast, the sides of which are bright bay, spreading along under the wings; the belly is white, the vent, pale rufous; a spot of white marks the wing just below the coverts, and another a little below that extends obliquely across the primaries; the tail is long, nearly even at the end; the three exterior feathers white for an inch or so from the tips, the outer one, wholly white, the middle ones, black; the bill is black; the legs and feet, a dirty flesh colour, and strong, for scratching up the ground. The female differs in being of a light reddish brown in those parts where the male is black, and in having the bill more of a light horn colour.

SUBGENUS IV.—*COCCOTHAUSTES*, BRISSON.

180. *FRINGILLA CARDINALIS*, BONAPARTE.

LOXIA CARDINALIS, WILSON. — CARDINAL GROSBEEK.

WILSON, PLATE II, FIG. I. MALE — FIG. II. FEMALE.

EDINBURGH COLLEGE MUSEUM.

THIS is one of our most common cage birds; and is very generally known, not only in North America, but even in Europe, numbers of them having been carried over both to France and England, in which last country they are usually called Virginia nightingales. To this name, Dr Latham observes, "they are fully entitled," from the clearness and variety of their notes, which, both in a wild and domestic state, are very various and

musical ; many of them resemble the high notes of a fife, and are nearly as loud. They are in song from March to September, beginning at the first appearance of dawn, and repeating a favourite stanza, or passage, twenty or thirty times successively ; sometimes, with little intermission, for a whole morning together, which, like a good story too often repeated, becomes at length tiresome and insipid. But the sprightly figure, and gaudy plumage, of the red bird, his vivacity, strength of voice, and actual variety of note, and the little expense with which he is kept, will always make him a favourite.

This species, like the mocking bird, is more numerous to the east of the great range of the Alleghany mountains, and inhabits from New England to Carthageua. Michaux the younger, son to the celebrated botanist, informed me, that he found this bird numerous in the Bermudas. In Pennsylvania and the Northern States it is rather a scarce species ; but through the whole lower parts of the Southern States, in the neighbourhood of settlements, I found them much more numerous ; their clear and lively notes, in the months of January and February, being, at that time, almost the only music of the season. Along the roadsides and fences I found them hovering in half dozens together, associated with snow birds, and various kinds of sparrows. In the Northern States, they are migratory ; but in the lower parts of Pennsylvania, they reside during the whole year, frequenting the borders of creeks and rivulets, in sheltered hollows covered with holly, laurel, and other evergreens. They love also to reside in the vicinity of fields of Indian corn, a grain that constitutes their chief and favourite food. The seeds of apples, cherries, and of many other sorts of fruit, are also eaten by them ; and they are accused of destroying bees.

In the months of March and April, the males have many violent engagements for their favourite females. Early in May, in Pennsylvania, they begin to prepare their nest, which is very often fixed in a holly, cedar, or laurel bush. Outwardly, it is constructed of small

twigs, tops of dry weeds, and slips of vine bark, and lined with stalks of fine grass. The female lays four eggs, thickly marked all over with touches of brownish olive, on a dull white ground; and they usually raise two brood in the season. These birds are rarely raised from the nest for singing, being so easily taken in trap cages, and soon domesticated. By long confinement, and perhaps unnatural food, they are found to fade in colour, becoming of a pale whitish red. If well taken care of, however, they will live to a considerable age. There is at present in Mr Peale's museum, the stuffed skin of one of these birds, which is there said to have lived in a cage upwards of twenty-one years.

The opinion which so generally prevails in England, that the music of the groves and woods of America is far inferior to that of Europe, I, who have a thousand times listened to both, cannot admit to be correct. We cannot with fairness draw a comparison between the depth of the forest in America, and the cultivated fields of England; because it is a well known fact, that singing birds seldom frequent the former in any country. But let the latter places be compared with the like situations in the United States, and the superiority of song, I am fully persuaded, would justly belong to the western continent. The few of our song birds that have visited Europe extort admiration from the best judges. "The notes of the cardinal grosbeak," says Latham, "are almost equal to those of the nightingale." Yet these notes, clear and excellent as they are, are far inferior to those of the wood thrush; and even to those of the brown thrush, or thrasher. Our inimitable mocking bird is also acknowledged, by themselves, to be fully equal to the song of the nightingale "in its whole compass." Yet these are not one-tenth of the number of our singing birds. Could these people be transported to the borders of our woods and settlements, in the month of May, about half an hour before sunrise, such a ravishing concert would greet their ear as they have no conception of.

The males of the cardinal grosbeak, when confined

together in a cage, fight violently. On placing a looking-glass before the cage, the gesticulations of the tenant are truly laughable; yet with this he soon becomes so well acquainted, that, in a short time, he takes no notice whatever of it; a pretty good proof that he has discovered the true cause of the appearance to proceed from himself. They are hardy birds, easily kept, sing six or eight months in the year, and are most lively in wet weather. They are generally known by the names, red-bird, Virginia red-bird, Virginia nightingale, and crested red-bird, to distinguish them from another beautiful species, the red tanager.

I do not know that any successful attempts have been made to induce these birds to pair and breed in confinement; but I have no doubt of its practicability, by proper management. Some months ago, I placed a young unfledged cow bird (the *fringilla pecoris* of Turton,) whose mother, like the cuckoo of Europe, abandons her eggs and progeny to the mercy and management of other smaller birds, in the same cage with a red-bird, which fed and reared it with great tenderness. They both continue to inhabit the same cage, and I have hopes that the red-bird will finish his pupil's education, by teaching him his song.

I must here again remark, for the information of foreigners, that the story told by Le Page du Pratz, in his *History of Louisiana*, and which has been so often repeated by other writers, that the cardinal grosbeak "collects together great hoards of maize and buckwheat, often as much as a bushel, which it artfully covers with leaves and small twigs, leaving only a small hole for entrance into the magazine," is entirely fabulous.

This species is eight inches long, and eleven in extent; the whole upper parts are a dull dusky red, except the sides of the neck and head, which, as well as the whole lower parts, are bright vermilion; chin, front, and lores, black; the head is ornamented with a high, pointed crest, which it frequently erects in an almost perpendicular position; and can also flatten at

pleasure, so as to be scarcely perceptible; the tail extends three inches beyond the wings, and is nearly even at the end; the bill is of a brilliant coralline colour, very thick and powerful for breaking hard grain and seeds; the legs and feet, a light clay colour (not blood red, as Buffon describes them); iris of the eye, dark hazel. The female is less than the male, has the upper parts of a brownish olive, or drab colour, the tail, wings, and tip of the crest excepted, which are nearly as red as those of the male; the lores, front, and chin are light ash; breast, and lower parts, a reddish drab; bill, legs, and eyes, as those of the male; the crest is shorter, and less frequently raised.

One peculiarity in the female of this species is, that she often sings nearly as well as the male. I do not know whether it be owing to some little jealousy on this score or not, that the male, when both occupy the same cage, very often destroys the female.

181. *FRINGILLA LUDOVICIANA*, BON. — *LOXIA ROSEA*, WILS.

ROSE-BREADED GROSBEAK.

WILSON, PLATE XVII. FIG II. MALE.

THIS elegant species is rarely found in the lower parts of Pennsylvania; in the State of New York, and those of New England, it is more frequently observed, particularly in fall, when the berries of the sour gum are ripe, on the kernels of which it eagerly feeds. Some of its trivial names would import, that it is also an inhabitant of Louisiana; but I have not heard of its being seen in any of the Southern States. A gentleman of Middleton, Connecticut, informed me, that he kept one of these birds for some considerable time in a cage, and observed that it frequently sung at night, and all night; that its notes were extremely clear and mellow, and the sweetest of any bird with which he is acquainted.

The bird from which the following description was taken, was shot, late in April, on the borders of a

swamp, a few miles from Philadelphia. Another male of the same species was killed at the same time, considerably different in its markings; a proof that they do not acquire their full colours until at least the second spring or summer.

The rose-breasted grosbeak is eight inches and a half long, and thirteen inches in extent; the whole upper parts are black, except the second row of wing-coverts, which are broadly tipped with white; a spot of the same extends over the primaries, immediately below their coverts; chin, neck, and upper part of the breast, black; lower part of the breast, middle of the belly, and lining of the wings, a fine light carmine, or rose colour; tail, forked, black, the three exterior feathers, on each side, white on their inner vanes for an inch or more from the tips; bill, like those of its tribe, very thick and strong, and pure white; legs and feet, light blue; eyes, hazel. The young male of the first spring has the plumage of the back variegated with light brown, white and black; a line of white extends over the eye; the rose colour also reaches to the base of the bill, where it is speckled with black and white. The female is of a light yellowish flaxen colour, streaked with dark olive, and whitish; the breast is streaked with olive, pale flaxen, and white; the lining of the wings is pale yellow; the bill, more dusky than in the male, and the white on the wing less.

182. *FRINGILLA CÆRULEA*, BONAP. — *LOXIA CÆRULEA*, WILS.

BLUE GROSBEEK.

WILSON, PLATE XXIV. FIG. VI.

THIS solitary and retired species inhabits the warmer parts of America, from Guiana, and probably farther south,* to Virginia. Mr Bartram also saw it during a summer's residence near Lancaster, Pennsylvania. In the United States, however, it is a scarce species; and

* LATHAM, ii. p. 116.

having but few notes, is more rarely observed. Their most common note is a loud *chuck*; they have also at times a few low, sweet toned notes. They are sometimes kept in cages, in Carolina; but seldom sing in confinement. The individual represented in the plate was a very elegant specimen, in excellent order, though just arrived from Charleston, South Carolina. During its stay with me, I fed it on Indian corn, which it seemed to prefer, easily breaking with its powerful bill the hardest grains. They also feed on hemp seed, millet, and the kernels of several kinds of berries. They are timid birds, watchful, silent, and active, and generally neat in their plumage. Having never yet met with their nest, I am unable at present to describe it.

The blue grosbeak is six inches long, and ten inches in extent; lores and frontlet, black; whole upper parts, a rich purplish blue, more dull on the back, where it is streaked with dusky; greater wing-coverts, black, edged at the tip with bay; next superior row, wholly chestnut; rest of the wing, black, skirted with blue; tail, forked, black, slightly edged with bluish, and sometimes minutely tipped with white; legs and feet, lead colour; bill, a dusky bluish horn colour; eye, large, full, and black.

The female is of a dark drab colour, tinged with blue, and considerably lightest below. I suspect the males are subject to a change of colour during winter. The young, as usual with many other species, do not receive the blue colour until the ensuing spring, and, till then, very much resemble the female.

Latham makes two varieties of this species; the first, wholly blue, except a black spot between the bill and eye; this bird inhabits Brazil, and is figured by Brisson, *Ornithology*, iii, 321, No. 6, pl. 17, fig. 2. The other is also generally of a fine deep blue, except the quills, tail, and legs, which are black; this is Edwards's "blue grosbeak, from Angola," pl. 125; which Dr Latham suspects to have been brought from some of the Brazilian settlements, and considers both as mere varieties of the first. I am sorry I cannot clear up this matter.

183. *FRINGILLA PURPUREA*, WILSON AND GMELIN.

PURPLE FINCH.

WILSON, PLATE VII. FIG. IV. MALE, SUMMER DRESS. — PLATE XLII. FIG. III.

MALE, WINTER PLUMAGE.

THIS is a winter bird of passage, coming to us in large flocks from the north, in September and October; great numbers remaining with us in Pennsylvania during the whole winter, feeding on the seeds of the poplar, button-wood, juniper, cedar, and on those of many rank weeds that flourish in rich bottoms, and along the margin of creeks. When the season is very severe, they proceed to the south, as far at least as Georgia, returning north early in April. They now frequent the elm trees, feeding on the slender but sweet covering of the flowers; and as soon as the cherries put out their blossoms, feed almost exclusively on the stamina of the flowers; afterwards the apple blossoms are attacked in the same manner; and their depredations on these continue till they disappear, which is usually about the 10th or middle of May. I have been told, that they sometimes breed in the northern parts of New York State, but have never met with their nests. About the middle of September, I found these birds numerous on Long Island, and round Newark in New Jersey. They fly at a considerable height in the air, and their note is a single *chink*, like that of the rice bird. They possess great boldness and spirit, and, when caught, bite violently, and hang by the bill from your hand, striking with great fury; but they are soon reconciled to confinement, and in a day or two are quite at home. I have kept a pair of these birds upwards of nine months to observe their manners. One was caught in a trap, the other was winged with the gun; both are now as familiar as if brought up from the nest by the hand, and seem to prefer hemp seed and cherry blossoms to all other kinds of food. Both male and female, though not crested, are almost

constantly in the habit of erecting the feathers of the crown; they appear to be of a tyrannical and domineering disposition, for they nearly killed an indigo bird, and two or three others, that were occasionally placed with them, driving them into a corner of the cage, standing on them, and tearing out their feathers, striking them on the head, munching their wings, &c. till I was obliged to interfere; and, even if called to, the aggressor would only turn up a malicious eye to me for a moment, and renew his outrage as before. They are a hardy vigorous bird. In the month of October, about the time of their first arrival, I shot a male, rich in plumage, and plump in flesh, but which wanted one leg, that had been taken off a little above the knee; the wound had healed so completely, and was covered with so thick a skin, that it seemed as though it had been so for years. Whether this mutilation was occasioned by a shot, or in party quarrels of its own, I could not determine; but our invalid seemed to have used his stump either in hopping or resting, for it had all the appearance of having been brought in frequent contact with other bodies harder than itself.

This bird is a striking example of the truth of what I have frequently repeated in this work, that in many instances the same bird has been more than once described by the same person as a different species; for it is a fact which time will establish, that the crimson-headed finch of Pennant and Latham, the purple finch of the same and other naturalists, the hemp bird of Bartram, and the *fringilla rosea* of Pallas, are one and the same, viz. the purple finch, the subject of the present article.

The purple finch is six inches in length, and nine in extent; head, neck, back, breast, rump, and tail-coverts, dark crimson, deepest on the head and chin, and lightest on the lower part of the breast; the back is streaked with dusky; the wings and tail are also dusky black, edged with reddish; the latter a good deal forked; round the base of the bill, the recumbent feathers are of a light clay or cream colour; belly and vent, white;

sides under the wings, streaked with dull reddish; legs, a dirty purplish flesh colour; bill, short, strong, conical, and of a dusky horn colour; iris, dark hazel; the feathers covering the ears are more dusky red than the other parts of the head. This is the male when arrived at his full colours. The female is nearly of the same size, of a brown olive or flaxen colour, streaked with dusky black; the head, seamed with lateral lines of whitish; above and below the hind part of the ear feathers, are two streaks of white; the breast is whitish, streaked with a light flax colour; tail and wings, as in the male, only both edged with dull brown, instead of red; belly and vent, white. This is also the colour of the young during the first, and to at least the end of the second season, when the males begin to become lighter yellowish, which gradually brightens to crimson; the female always retains nearly the same appearance. The young male bird of the first year may be distinguished from the female by the tail of the former being edged with olive green, that of the latter with brown.

It is matter of doubt with me whether this species ought not to be classed with the *loxia*: the great thickness of the bill, and similarity that prevails between this and the pine grosbeak, almost induced me to adopt it into that class. But respect for other authorities has prevented me from making this alteration.

When these birds are taken in their crimson dress and kept in a cage till they moult their feathers, they uniformly change to their present appearance, and sometimes never after receive their red colour. They are also subject, if well fed, to become so fat as literally to die of corpulency, of which I have seen several instances; being at these times subject to something resembling apoplexy, from which they sometimes recover in a few minutes, but oftener expire in the same space of time.

The female is entirely without red, and differs from the present only in having less yellow about her.

These birds regularly arrive from the north, where they breed, in September, and visit us from the south

again early in April, feeding on the cherry blossoms as soon as they appear.

This bird measures six inches and a quarter in length, and ten inches in extent; the bill was horn coloured; upper parts of the plumage, brown olive, strongly tinged with yellow, particularly on the rump, where it was brownish yellow; from above the eye, backwards, passed a streak of white, and another more irregular one from the lower mandible; feathers of the crown, narrow, rather long, and generally erected, but not so as to form a crest; nostrils and base of the bill, covered with reflected brownish hairs; eye, dark hazel; wings and tail, dark blackish brown, edged with olive; first and second row of coverts, tipped with pale yellow; chin, white; breast, pale cream, marked with pointed spots of deep olive brown; belly and vent, white; legs, brown. This bird, with several others marked nearly in the same manner, was shot, April 25, while engaged in eating the buds from the beech tree.

GENUS XXXIV. — *PYRRHULA*, BRISSON.

184. *PYRRHULA ENUCLEATOR*, TEM. — *LOXIA ENUCLEATOR*, WILS.

PINE GROSBEEK.

WILSON, PLATE V. FIG. II. YOUNG MALE. — EDINBURGH COLLEGE MUSEUM.

THIS is perhaps one of the gayest land birds that frequent the inhospitable regions of the north, from whence they are driven, as if with reluctance, by the rigours of winter, to visit Canada and some of the northern and middle States; returning to Hudson's Bay so early as April. The specimen from which our description was taken was shot on a cedar tree, a few miles to the north of Philadelphia, in the month of December. A few days afterwards, another bird of the same species was killed not far from Gray's Ferry, four miles south from Philadelphia, which proved to be a female. In this part of the State of Pennsylvania, they are rare birds, and seldom seen. As they do not,

to my knowledge, breed in any part of this State, I am unable, from personal observation, to speak of their manners or musical talents. Mr Pennant says they sing on their first arrival in the country round Hudson's Bay, but soon become silent; make their nest on trees, at a small height from the ground, with sticks, and line it with feathers. The female lays four white eggs, which are hatched in June. Forster observes, that they visit Hudson's Bay only in May, in their way to the north; and are not observed to return in the autumn; and that their food consists of birch-willow buds, and others of the same nature.*

The pine grosbeak measures nine inches in length, and fourteen inches in extent; the head, neck, breast and rump, are of a rich crimson, palest on the breast; the feathers on the middle of the back are centred with arrow-shaped spots of black, and skirted with crimson, which gives the plumage a considerable flush of red there; those on the shoulders are of a deep slate colour, partially skirted with red, and light ash. The greater wing-coverts and next superior row are broadly tipped with white, and slightly tinged with reddish; wings and tail, black, edged with light brown; tail, considerably forked; lower part of the belly, ash colour; vent feathers, skirted with white, and streaked with black; legs, glossy black; bill, a brownish horn colour, very thick, short, and hooked at the point; the upper mandible overhanging the lower considerably, approaching in its form to that of the parrot; base of the bill, covered with recumbent hairs of a dark brown colour. The whole plumage, near the roots, as in most other birds, is of a deep bluish ash colour. The female was half an inch shorter, and answered nearly to the above description; only, those parts that in the male were crimson, were in her of a dirty yellowish colour. The female, according to Forster, referred to above, has those parts which in the male are red, more of an orange tint; and he censures Edwards for having

* *Philosophical Transactions*, lxii, p. 402.

represented the female of too bright a red. It is possible, that my specimen of the female might have been a bird of the first season, not come to its full colours. Those figured by Mr Edwards* were both brought from Hudson's Bay, and appear to be the same with the one now before us, though his colouring of the female differs materially from his description.

If this, as Mr Pennant asserts, be the same species with that of the eastern continent, it would seem to inhabit almost the whole extent of the arctic regions. It is found in the north of Scotland, where Pennant suspects it breeds. It inhabits Europe as far north as Drontheim; is common in all the pine forests of Asia, in Siberia, and the north of Russia; is taken in autumn about Petersburg, and brought to market in great numbers. It returns to Lapland in spring; is found in Newfoundland; and on the western coast of North America.†

Were I to reason from analogy, I would say, that from the great resemblance of this bird to the purple finch, (*fringilla purpurea*,) it does not attain its full plumage until the second summer; and is subject to considerable change of colour in moulting, which may have occasioned all the differences we find concerning it in different authors. But this is actually ascertained to be the case; for Mr Edwards saw two of these birds alive in London, in cages; the person in whose custody they were, said they came from Norway; that they had moulted their feathers, and were not afterwards so beautiful as they were at first. One of them, he says, was coloured very much like the greenfinch, (*F. chlorosis*.) The purple finch, though much smaller, has the rump, head, back, and breast, nearly of the same colour as the pine grosbeak, feeds in the same manner, on the same food, and is also subject to like changes of colour.

* EDWARDS, vol. iii, p. 124.

† PENNANT.

GENUS XXXV.—*LOXIA*, BRISSON.185. *LOXIA CURVIROSTRA*, LINNÆUS.*CURVIROSTRA AMERICANA*, WILSON. — AMERICAN CROSSBILL.

WILSON, PLATE XXXI. FIG. III. YOUNG MALE.

EDINBURGH COLLEGE MUSEUM.

ON first glancing at the bill of this extraordinary bird one is apt to pronounce it deformed and monstrous; but on attentively observing the use to which it is applied by the owner, and the dexterity with which he detaches the seeds of the pine tree from the cone, and from the husks that enclose them, we are obliged to confess, on this, as on many other occasions, where we have judged too hastily of the operations of Nature, that no other conformation could have been so excellently adapted to the purpose; and that its deviation from the common form, instead of being a defect or monstrosity, as the celebrated French naturalist insinuates, is a striking proof of the wisdom and kind superintending care of the great Creator.

This species is a regular inhabitant of almost all our pine forests situated north of 40° , from the beginning of September to the middle of April. It is not improbable that some of them remain during summer within the territory of the United States to breed. Their numbers must, however, be comparatively few, as I have never yet met with any of them in summer; though I took a journey to the Great Pine Swamp beyond Pocano mountain, in Northampton county, Pennsylvania, in the month of May, expressly for that purpose; and ransacked, for six or seven days, the gloomy recesses of that extensive and desolate morass, without being able to discover a single cross-bill. In fall, however, as well as in winter and spring, this tract appears to be their favourite rendezvous; particularly about the head waters of the Lehigh, the banks of the Tobyhanna, Tunkhannock, and Bear

Creek, where I have myself killed them at these seasons. They then appear in large flocks, feeding on the seeds of the hemlock and white pine, have a loud, sharp, and not unmusical note; chatter as they fly; alight, during the prevalence of deep snows, before the door of the hunter, and around the house, picking off the clay with which the logs are plastered, and searching in corners where urine or any substance of a saline quality had been thrown. At such times they are so tame as only to settle on the roof of the cabin when disturbed, and a moment after descend to feed as before. They are then easily caught in traps; and will frequently permit one to approach so near as to knock them down with a stick. Those killed and opened at such times are generally found to have the stomach filled with a soft greasy kind of earth or clay. When kept in a cage, they have many of the habits of the parrot; often climbing along the wires; and using their feet to grasp the cones in, while taking out the seeds.

This same species is found in Nova Scotia, and as far north as Hudson's Bay, arriving at Severn river about the latter end of May; and, according to accounts, proceeding farther north to breed. It is added by Pennant, that "they return at the first setting in of frost."

Hitherto this bird has, as usual, been considered a mere variety of the European species; though differing from it in several respects, and being nearly one-third less, and although the singular conformation of the bill of these birds and their peculiarity of manners are strikingly different from those of the grosbeaks, yet many disregarding these plain and obvious discriminations, still continue to consider them as belonging to the genus *loxia*; as if the particular structure of the bill should, in all cases but this, be the criterion by which to judge of a species; or perhaps conceiving themselves the wiser of the two, they have thought proper to associate together what nature has, in the most pointed manner, placed apart.

In separating these birds, therefore, from the grosbeaks, and classing them as a family by themselves,

substituting the specific for the generic appellation, I have only followed the steps and dictates of that great original, whose arrangements ought never to be disregarded by any who would faithfully copy her.

The crossbills are subject to considerable changes of colour; the young males of the present species being, during the first season, olive yellow, mixed with ash; then bright greenish yellow intermixed with spots of dusky olive, all of which yellow plumage becomes, in the second year, of a light red, having the edges of the tail inclining to yellow. When confined in a cage, they usually lose the red colour at the first moulting, that tint changing to a brownish yellow, which remains permanent. The same circumstance happens to the purple finch and pine grosbeak, both of which, when in confinement, exchange their brilliant crimson for a motley garb of light brownish yellow; as I have had frequent opportunities of observing.

The male of this species, when in perfect plumage, is five inches and three quarters long, and nine inches in extent; the bill is a brown horn colour, sharp, and single-edged towards the extremity, where the mandibles cross each other; the general colour of the plumage is a red-lead colour, brightest on the rump, generally intermixed on the other parts with touches of olive; wings and tail, brown black, the latter forked, and edged with yellow; legs and feet, brown; claws, large, much curved, and very sharp; vent, white, streaked with dark ash; base of the bill, covered with recumbent down, of a pale brown colour; eye, hazel.

The female is rather less than the male; the bill of a paler horn colour; rump, tail-coverts, and edges of the tail, golden yellow; wings and tail, dull brownish black; the rest of the plumage, olive yellow mixed with ash; legs and feet, as in the male. The young males, during the first season, as is usual with most other birds, very much resemble the female. In moulting, the males exchange their red for brownish yellow, which gradually brightens into red. Hence, at different seasons, they differ greatly in colour.

186. *LOXIA LEUCOPTERA*, GMELIN. — *CURVIROSTRA LEUCOPTERA*,
WILSON.

WHITE-WINGED CROSSBILL.

WILSON, PLATE. XXXI. FIG. III. YOUNG MALE.

THIS is a much rarer species than the preceding; though found frequenting the same places, and at the same seasons; differing, however, from the former in the deep black wings and tail, the large bed of white on the wing, the dark crimson of the plumage; and a less and more slender conformation of body. The individual of this species mentioned by Turton and Latham, has evidently been shot in moulting time. The present specimen was a male in full and perfect plumage.

The white-winged crossbill is five inches and a quarter long, and eight inches and a quarter in extent; wings and tail, deep black, the former crossed with two broad bars of white; general colour of the plumage, dark crimson, partially spotted with dusky; lores and frontlet, pale brown; vent, white, streaked with black; bill, a brown horn colour, the mandibles crossing each other as in the preceding species, the lower sometimes bending to the right, sometimes to the left, usually to the left in the male, and to the right in the female, of the American crossbill.

FAMILY XV.

COLUMBINI, ILLIGER.

GENUS XXXVI. — *COLUMBA*, LINNÆUS.

SUBGENUS I. — *COLUMBA*, STEPHENS.

187. *COLUMBA CAROLINENSIS*, WILSON.

CAROLINA PIGEON, OR TURTLE DOVE.

WILSON, PLATE XLIII. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

THIS is a favourite bird with all those who love to wander among our woods in spring, and listen to their varied harmony. They will there hear many a singular and sprightly performer; but none so mournful as this. The hopeless wo of settled sorrow, swelling the heart of female innocence itself, could not assume tones more sad, more tender and affecting. Its notes are four; the first is somewhat the highest, and preparatory, seeming to be uttered with an inspiration of the breath, as if the afflicted creature were just recovering its voice from the last convulsive sobs of distress; this is followed by three long, deep, and mournful moanings, that no person of sensibility can listen to without sympathy. A pause of a few minutes ensues, and again the solemn voice of sorrow is renewed as before. This is generally heard in the deepest shaded parts of the woods, frequently about noon and towards the evening.

There is, however, nothing of real distress in all this; quite the reverse. The bird who utters it wantons by the side of his beloved partner, or invites her by his call to some favourite retired and shady retreat. It is the voice of love, of faithful connubial affection, for which the whole family of doves are so celebrated; and, among them all, none more deservedly so than the species now before us.

The turtle dove is a general inhabitant, in summer, of the United States, from Canada to Florida, and from the sea coast to the Mississippi, and far to the westward. They are, however, partially migratory in the Northern and Middle States; and collect together in North and South Carolina, and their corresponding parallels, in great numbers, during the winter. On the 2d of February, in the neighbourhood of Newbern, North Carolina, I saw a flock of turtle doves of many hundreds; in other places, as I advanced farther south, particularly near the Savannah river, in Georgia, the woods were swarming with them, and the whistling of their wings was heard in every direction.

On their return to the north in March, and early in April, they disperse so generally over the country, that there are rarely more than three or four seen together, most frequently only two. Here they commonly fly in pairs, resort constantly to the public roads to dust themselves and procure gravel; are often seen in the farmer's yard before the door, the stable, barn, and other outhouses, in search of food, seeming little inferior in familiarity, at such times, to the domestic pigeon. They often mix with the poultry while they are fed in the morning, visit the yard and adjoining road many times a-day, and the pump, creek, horse trough, and rills for water.

Their flight is quick, vigorous, and always accompanied by a peculiar whistling of the wings, by which they can easily be distinguished from the wild pigeon. They fly with great swiftness, alight on trees, fences, or on the ground indiscriminately; are exceedingly fond of buckwheat, hempseed, and Indian corn; feed on the berries of the holly, the dogwood, and poke, huckleberries, partridgeberries, and the small acorns of the live oak and shrub oak. They devour large quantities of gravel, and sometimes pay a visit to the kitchen garden for peas, for which they have a particular regard.

In this part of Pennsylvania, they commence building about the beginning of May. The nest is very rudely constructed, generally in an evergreen, among the thick

foliage of the vine, in an orchard, on the horizontal branches of an apple tree, and, in some cases, on the ground. It is composed of a handful of small twigs, laid with little art, on which are scattered dry fibrous roots of plants; and in this almost flat bed are deposited two eggs of a snowy whiteness. The male and female unite in feeding the young, and they have rarely more than two brood in the same season.

The flesh of this bird is considered much superior to that of the wild pigeon; but its seeming confidence in man, the tenderness of its notes, and the innocence attached to its character, are, with many, its security and protection; with others, however, the tenderness of its flesh, and the sport of shooting, overcome all other considerations. About the commencement of frost, they begin to move off to the south; numbers, however, remain in Pennsylvania during the whole winter.

The turtle dove is twelve inches long, and seventeen inches in extent; bill, black; eye, of a glossy blackness, surrounded with a pale greenish blue skin; crown, upper part of the neck and wings, a fine silky slate blue; back, scapulars, and lesser wing-coverts, ashy brown; tertials, spotted with black; primaries, edged and tipped with white; forehead, sides of the neck, and breast, a pale brown vinous orange; under the ear-feathers, a spot or drop of deep black; immediately below which the plumage reflects the most vivid tints of green, gold, and crimson; chin, pale yellow ochre; belly and vent, whitish; legs and feet, coral red, scamed with white; the tail is long and cuneiform, consisting of fourteen feathers; the four exterior ones, on each side, are marked with black, about an inch from the tips, and white thence to the extremity; the next has less of the white at the tip; these gradually lengthen to the four middle ones, which are wholly dark slate; all of them taper towards the points, the two middle ones most so.

The female is an inch shorter, and is otherwise only distinguished by the less brilliancy of her colour; she

also wants the rich silky blue on the crown, and much of the splendour of the neck; the tail is also somewhat shorter, and the white, with which it is marked, less pure.

188. *COLUMBA MIGRATORIA*, LINNÆUS AND WILSON.

MIGRATORY PIGEON.

WILSON, PLATE XLIV. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THIS remarkable bird merits a distinguished place in the annals of our feathered tribes; a claim to which I shall endeavour to do justice; and, though it would be impossible, in the bounds allotted to this account, to relate all I have seen and heard of this species, yet no circumstance shall be omitted with which I am acquainted, (however extraordinary some of these may appear), that may tend to illustrate its history.

The wild pigeon of the United States inhabits a wide and extensive region of North America, on this side of the Great Stony Mountains, beyond which, to the westward, I have not heard of their being seen. According to Mr Hutchins, they abound in the country round Hudson's Bay, where they usually remain as late as December, feeding, when the ground is covered with snow, on the buds of juniper. They spread over the whole of Canada; were seen by Captain Lewis and his party near the Great Falls of the Missouri, upwards of 2,500 miles from its mouth, reckoning the meanderings of the river; were also met with in the interior of Louisiana by Colonel Pike; and extend their range as far south as the Gulf of Mexico; occasionally visiting or breeding in almost every quarter of the United States.

But the most remarkable characteristic of these birds is their associating together, both in their migrations, and also during the period of incubation, in such prodigious numbers, as almost to surpass belief; and which has no parallel among any other of the feathered tribes, on the face of the earth, with which naturalists are acquainted.

These migrations appear to be undertaken rather in quest of food, than merely to avoid the cold of the climate; since we find them lingering in the northern regions, around Hudson's Bay, so late as December; and, since their appearance is so casual and irregular, sometimes not visiting certain districts for several years in any considerable numbers, while at other times they are innumerable. I have witnessed these migrations in the Genesee country, often in Pennsylvania, and also in various parts of Virginia, with amazement; but all that I had then seen of them were mere straggling parties, when compared with the congregated millions which I have since beheld in our western forests, in the States of Ohio, Kentucky, and the Indiana territory. These fertile and extensive regions abound with the nutritious beech nut, which constitutes the chief food of the wild pigeon. In seasons when these nuts are abundant, corresponding multitudes of pigeons may be confidently expected. It sometimes happens that, having consumed the whole produce of the beech trees, in an extensive district, they discover another, at the distance perhaps of sixty or eighty miles, to which they regularly repair every morning, and return as regularly in the course of the day, or in the evening, to their place of general rendezvous, or, as it is usually called, the roosting place. These roosting places are always in the woods, and sometimes occupy a large extent of forest. When they have frequented one of these places for some time, the appearance it exhibits is surprising. The ground is covered to the depth of several inches with their dung; all the tender grass and underwood destroyed; the surface strewn with large limbs of trees, broken down by the weight of the birds clustering one above another; and the trees themselves, for thousands of acres, killed as completely as if girdled with an axe. The marks of this desolation remain for many years on the spot; and numerous places could be pointed out, where, for several years after, scarce a single vegetable made its appearance.

When these roosts are first discovered, the inhabitants

from considerable distances, visit them in the night, with guns, clubs, long poles, pots of sulphur, and various other engines of destruction. In a few hours, they fill many sacks, and load their horses with them. By the Indians, a pigeon roost, or breeding place, is considered an important source of national profit and dependance for that season; and all their active ingenuity is exercised on the occasion. The breeding place differs from the former in its greater extent. In the western countries above mentioned, these are generally in beech woods, and often extend, in nearly a straight line, across the country for a great way. Not far from Shelbyville, in the State of Kentucky, about five years ago, there was one of these breeding places, which stretched through the woods in nearly a north and south direction; was several miles in breadth, and was said to be upwards of forty miles in extent! In this tract, almost every tree was furnished with nests, wherever the branches could accommodate them. The pigeons made their first appearance there about the 10th of April, and left it altogether, with their young, before the 25th of May.

As soon as the young were fully grown, and before they left the nests, numerous parties of the inhabitants, from all parts of the adjacent country, came with wagons, axes, beds, cooking utensils, many of them accompanied by the greater part of their families, and encamped for several days at this immense nursery. Several of them informed me, that the noise in the woods was so great as to terrify their horses, and that it was difficult for one person to hear another speak, without bawling in his ear. The ground was strewed with broken limbs of trees, eggs, and young squab pigeons, which had been precipitated from above, and on which herds of hogs were fattening. Hawks, buzzards, and eagles, were sailing about in great numbers, and seizing the squabs from their nests at pleasure; while, from twenty feet upwards to the tops of the trees, the view through the woods presented a perpetual tumult of crowding and fluttering multitudes of pigeons,

their wings roaring like thunder, mingled with the frequent crash of falling timber; for now the axe-men were at work, cutting down those trees that seemed to be most crowded with nests, and contrived to fell them in such a manner, that, in their descent, they might bring down several others; by which means the falling of one large tree sometimes produced two hundred squabs, little inferior in size to the old ones, and almost one mass of fat. On some single trees, upwards of one hundred nests were found, each containing *one* young only; a circumstance, in the history of this bird, not generally known to naturalists. It was dangerous to walk under these flying and fluttering millions, from the frequent fall of large branches, broken down by the weight of the multitudes above, and which, in their descent, often destroyed numbers of the birds themselves; while the clothes of those engaged in traversing the woods were completely covered with the excrements of the pigeons.

These circumstances were related to me by many of the most respectable part of the community in that quarter; and were confirmed, in part, by what I myself witnessed. I passed for several miles through this same breeding place, where every tree was spotted with nests, the remains of those above described. In many instances, I counted upwards of ninety nests on a single tree; but the pigeons had abandoned this place for another, sixty or eighty miles off towards Green river, where they were said at that time to be equally numerous. From the great numbers that were constantly passing over head to or from that quarter, I had no doubt of the truth of this statement. The mast had been chiefly consumed in Kentucky, and the pigeons, every morning a little before sunrise, set out for the Indiana territory, the nearest part of which was about sixty miles distant. Many of these returned before ten o'clock, and the great body generally appeared, on their return, a little after noon.

I had left the public road to visit the remains of the breeding place near Shelbyville, and was traversing the

woods with my gun, on my way to Frankfort, when, about one o'clock, the pigeons, which I had observed flying the greater part of the morning northerly, began to return, in such immense numbers as I never before had witnessed. Coming to an opening, by the side of a creek called the Benson, where I had a more uninterrupted view, I was astonished at their appearance. They were flying, with great steadiness and rapidity, at a height beyond gunshot, in several strata deep, and so close together, that, could shot have reached them, one discharge could not have failed of bringing down several individuals. From right to left, far as the eye could reach, the breadth of this vast procession extended, seeming every where equally crowded. Curious to determine how long this appearance would continue, I took out my watch to note the time, and sat down to observe them. It was then half past one. I sat for more than an hour, but, instead of a diminution of this prodigious procession, it seemed rather to increase both in numbers and rapidity; and, anxious to reach Frankfort before night, I rose and went on. About four o'clock in the afternoon I crossed the Kentucky river, at the town of Frankfort, at which time the living torrent above my head seemed as numerous and as extensive as ever. Long after this I observed them, in large bodies, that continued to pass for six or eight minutes, and these again were followed by other detached bodies, all moving in the same southeast direction, till after six in the evening. The great breadth of front which this mighty multitude preserved would seem to intimate a corresponding breadth of their breeding place, which, by several gentlemen, who had lately passed through part of it, was stated to me at several miles. It was said to be in Green county, and that the young began to fly about the middle of March. On the 17th of April, forty-nine miles beyond Danville, and not far from Green River, I crossed this same breeding place, where the nests, for more than three miles, spotted every tree; the leaves not being yet out, I had a fair prospect of them, and was really astonished.

at their numbers. A few bodies of pigeons lingered yet in different parts of the woods, the roaring of whose wings was heard in various quarters around me.

All accounts agree in stating, that each nest contains only one young squab. These are so extremely fat, that the Indians, and many of the whites, are accustomed to melt down the fat, for domestic purposes, as a substitute for butter and lard. At the time they leave the nest, they are nearly as heavy as the old ones; but become much leaner, after they are turned out to shift for themselves.

It is universally asserted in the western countries, that the pigeons, though they have only one young at a time, breed thrice, and sometimes four times, in the same season; the circumstances already mentioned render this highly probable. It is also worthy of observation, that this takes place during that period when acorns, beech nuts, &c. are scattered about in the greatest abundance, and mellowed by the frost. But they are not confined to these alone,—buckwheat, hempseed, Indian corn, hollyberries, hackberries, huckleberries, and many others, furnish them with abundance at almost all seasons. The acorns of the live oak are also eagerly sought after by these birds, and rice has been frequently found in individuals killed many hundred miles to the northward of the nearest rice plantation. The vast quantity of mast which these multitudes consume is a serious loss to the bears, pigs, squirrels, and other dependants on the fruits of the forest. I have taken, from the crop of a single wild pigeon, a good handful of the kernels of beech nuts, intermixed with acorns and chestnuts. To form a rough estimate of the daily consumption of one of these immense flocks, let us first attempt to calculate the numbers of that above mentioned, as seen in passing between Frankfort and the Indiana territory: If we suppose this column to have been one mile in breadth, (and I believe it to have been much more,) and that it moved at the rate of one mile in a minute, four hours, the time it continued passing, would make its whole

length two hundred and forty miles. Again, supposing that each square yard of this moving body comprehended three pigeons, the square yards in the whole space, multiplied by three, would give two thousand two hundred and thirty millions, two hundred and seventy-two thousand pigeons!—an almost inconceivable multitude, and yet probably far below the actual amount. Computing each of these to consume half a pint of mast daily, the whole quantity at this rate would equal seventeen millions, four hundred and twenty-four thousand bushels per day! Heaven has wisely and graciously given to these birds rapidity of flight and a disposition to range over vast uncultivated tracts of the earth, otherwise they must have perished in the districts where they resided, or devoured up the whole productions of agriculture, as well as those of the forests.

A few observations on the mode of flight of these birds must not be omitted: The appearance of large detached bodies of them in the air, and the various evolutions they display, are strikingly picturesque and interesting. In descending the Ohio by myself, in the month of February, I often rested on my oars to contemplate their aerial manœuvres. A column, eight or ten miles in length, would appear from Kentucky, high in air, steering across to Indiana. The leaders of this great body would sometimes gradually vary their course, until it formed a large bend, of more than a mile in diameter, those behind tracing the exact route of their predecessors. This would continue sometimes long after both extremities were beyond the reach of sight; so that the whole, with its glittery undulations, marked a space on the face of the heavens resembling the windings of a vast and majestic river. When this bend became very great, the birds, as if sensible of the unnecessary circuitous course they were taking, suddenly changed their direction, so that what was in column before became an immense front, straightening all its indentures, until it swept the heavens in one vast and infinitely extended line. Other lesser bodies also united with each other as they happened to

approach, with such ease and elegance of evolution, forming new figures, and varying these as they united or separated, that I was never tired of contemplating them. Sometimes a hawk would make a sweep on a particular part of the column, from a great height, when, almost as quick as lightning, that part shot downwards out of the common track ; but, soon rising again, continued advancing at the same height as before. This inflection was continued by those behind, who, on arriving at this point dived down, almost perpendicularly, to a great depth, and rising, followed the exact path of those that went before. As these vast bodies passed over the river near me, the surface of the water, which was before smooth as glass, appeared marked with innumerable dimples, occasioned by the dropping of their dung, resembling the commencement of a shower of large drops of rain or hail.

Happening to go ashore one charming afternoon, to purchase some milk at a house that stood near the river, and while talking with the people within doors, I was suddenly struck with astonishment at a loud rushing roar, succeeded by instant darkness, which, on the first moment, I took for a tornado, about to overwhelm the house and every thing around in destruction. The people, observing my surprise, coolly said, " It is only the pigeons ;" and, on running out, I beheld a flock, thirty or forty yards in width, sweeping along very low, between the house and the mountain, or height, that formed the second bank of the river. These continued passing for more than a quarter of an hour, and at length varied their bearing, so as to pass over the mountain, behind which they disappeared before the rear came up.

In the Atlantic States, though they never appear in such unparalleled multitudes, they are sometimes very numerous ; and great havoc is then made amongst them with the gun, the clap net, and various other implements of destruction. As soon as it is ascertained in a town that the pigeons are flying numerously in the neighbourhood, the gunners rise *en masse* ; the clap nets are

spread out on suitable situations, commonly on an open height in an old buckwheat field; four or five live pigeons, with their eyelids sewed up, are fastened on a movable stick; a small hut of branches is fitted up for the fowler, at the distance of forty or fifty yards; by the pulling of a string, the stick on which the pigeons rest is alternately elevated and depressed, which produces a fluttering of their wings similar to that of birds just alighting; this being perceived by the passing flocks, they descend with great rapidity, and, finding corn, buckwheat, &c. strewed about, begin to feed, and are instantly, by the pulling of a cord, covered by the net. In this manner ten, twenty, and even thirty dozen, have been caught at one sweep. Meantime the air is darkened with large bodies of them, moving in various directions; the woods also swarm with them in search of acorns; and the thundering of musketry is perpetual on all sides, from morning to night. Wagon loads of them are poured into market, where they sell from fifty to twenty-five, and even twelve cents, per dozen; and pigeons become the order of the day at dinner, breakfast, and supper, until the very name becomes sickening. When they have been kept alive, and fed for some time on corn and buckwheat, their flesh acquires great superiority; but, in their common state, they are dry and blackish, and far inferior to the full grown young ones, or squabs.

The nest of the wild pigeon is formed of a few dry slender twigs, carelessly put together, and with so little concavity, that the young one, when half grown, can easily be seen from below. The eggs are pure white. Great numbers of hawks, and sometimes the bald eagle himself, hover about those breeding places, and seize the old or the young from the nest amidst the rising multitudes, and with the most daring effrontery. The young, when beginning to fly, confine themselves to the under part of the tall woods where there is no brush, and where nuts and acorns are abundant, searching among the leaves for mast, and appear like a prodigious

torrent rolling along through the woods, every one striving to be in the front. Vast numbers of them are shot while in this situation. A person told me, that he once rode furiously into one of these rolling multitudes, and picked up thirteen pigeons, which had been trampled to death by his horse's feet. In a few minutes, they will beat the whole nuts from a tree with their wings, while all is a scramble, both above and below, for the same. They have the same cooing notes common to domestic pigeons, but much less of their gesticulations. In some flocks you will find nothing but young ones, which are easily distinguishable by their motley dress. In others, they will be mostly females; and again, great multitudes of males, with few or no females. I cannot account for this in any other way than that, during the time of incubation, the males are exclusively engaged in procuring food, both for themselves and their mates; and the young, being unable yet to undertake these extensive excursions, associate together accordingly. But, even in winter, I know of several species of birds who separate in this manner, particularly the red-winged starling, among whom thousands of old males may be found, with few or no young or females along with them.

Stragglers from these immense armies settle in almost every part of the country, particularly among the beech woods, and in the pine and hemlock woods of the eastern and northern parts of the continent. Mr Pennant informs us, that they breed near Moose Fort at Hudson's Bay, in N. lat. 51°, and I myself have seen the remains of a large breeding place as far south as the country of the Chactaws, in lat. 32°. In the former of these places they are said to remain until December; from which circumstance, it is evident that they are not regular in their migrations, like many other species, but rove about, as scarcity of food urges them. Every spring, however, as well as fall, more or less of them are seen in the neighbourhood of Philadelphia; but it is only once in several years that they appear in such

formidable bodies ; and this commonly when the snows are heavy to the north, the winter here more than usually mild, and acorns, &c. abundant.

The passenger pigeon is sixteen inches long, and twenty-four inches in extent ; bill, black ; nostril, covered by a high rounding protuberance ; eye, brilliant fiery orange ; orbit, or space surrounding it, purplish flesh coloured skin ; head, upper part of the neck, and chin, a fine slate blue, lightest on the chin ; throat, breast, and sides, as far as the thighs, a reddish hazel ; lower part of the neck, and sides of the same, resplendent changeable gold, green, and purplish crimson, the latter most predominant ; the ground colour slate ; the plumage of this part is of a peculiar structure, ragged at the ends ; belly and vent, white ; lower part of the breast, fading into a pale vinaceous red ; thighs, the same ; legs and feet, lake, seamed with white ; back, rump, and tail-coverts, dark slate, spotted on the shoulders with a few scattered marks of black ; the scapulars, tinged with brown ; greater coverts, light slate ; primaries and secondaries, dull black, the former tipped and edged with brownish white ; tail, long, and greatly cuneiform, all the feathers tapering towards the point, the two middle ones plain deep black, the other five, on each side, hoary white, lightest near the tips, deepening into bluish near the bases, where each is crossed on the inner vane with a broad spot of black, and nearer the root with another of ferruginous ; primaries, edged with white ; bastard wing, black.

The female is about half an inch shorter, and an inch less in extent ; breast, cinereous brown ; upper part of the neck, inclining to ash ; the spot of changeable gold, green, and carmine, much less, and not so brilliant ; tail-coverts, brownish slate ; naked orbits, slate coloured ; in all other respects like the male in colour, but less vivid, and more tinged with brown ; the eye not so brilliant an orange. In both, the tail has only twelve feathers.

SUBGENUS II. — *GOURA*, STEPHENS.189. *COLUMBA PASSERINA*, LINN. AND WILS. — GROUND DOVE.

WILSON, PLATE XLVI. FIG. II. MALE. — FIG. III. FEMALE.

EDINBURGH COLLEGE MUSEUM.

THE ground dove, one of the least of the pigeon tribe, is a native of North and South Carolina, Georgia, the new State of Louisiana, Florida, and the islands of the West Indies. In the latter, it is frequently kept in cages; is esteemed excellent for the table, and honoured by the French planters with the name of ortolan. They are numerous in the sea islands, on the coast of Carolina, and Georgia; fly in flocks or coveys of fifteen or twenty; seldom visit the woods, preferring open fields and plantations; are almost constantly on the ground, and, when disturbed, fly to a short distance, and again alight. They have a frequent jetting motion with the tail; feed on rice, various seeds and berries, particularly those of the toothache tree,* under or near which, in the proper season, they are almost sure to be found. Of their nest, or manner of breeding, I am unable to give any account.

These birds seem to be confined to the districts lying south of Virginia. They are plenty on the upper parts of Cape Fear river, and in the interior of Carolina and Georgia; but I have never met with them, either in Maryland, Delaware, or Pennsylvania. They never congregate in such multitudes as the common wild pigeon; or even as the Carolina pigeon, or turtle dove; but, like the partridge or quail, frequent the open fields in small coveys. They are easily tamed, have a low, tender, cooing note, accompanied with the usual gesticulations of their tribe.

The ground dove is a bird of passage, retiring to the islands, and to the more southerly parts of the continent, on the approach of winter, and returning to its former haunts early in April. It is of a more slender and

* *Xanthoxylum clava Herculis*.

delicate form, and less able to bear the rigours of cold, than either of the other two species common in the United States, both of which are found in the northern regions of Canada, as well as in the genial climate of Florida.

The dove, generally speaking, has long been considered as the favourite emblem of peace and innocence, probably from the respectful manner in which its name is mentioned in various parts of Scripture; its being selected from among all the birds, by Noah, to ascertain the state of the deluge, and returning to the ark, bearing the olive leaf, as a messenger of peace and good tidings; the Holy Ghost, it is also said, was seen to descend like a dove from heaven, &c. In addition to these, there is in the dove an appearance of meekness and innocency very interesting, and well calculated to secure our partiality in its favour. These remarks are applicable to the whole genus; but are more particularly so to the species now before us, as being among the least, the most delicate, and inoffensive of the whole.

The ground dove is six inches and a quarter long; bill, yellow, black at the point; nostril, covered with a prominent membrane, as is usual with the genus; iris of the eye, orange red; front, throat, breast, and sides of the neck, pale vinaceous purple; the feathers, strongly defined by semicircular outlines, those on the throat, centred with dusky blue; crown and hind head, a fine pale blue, intermixed with purple, the plumage, like that on the throat, strongly defined; back, cinereous brown, the scapulars deeply tinged with pale purple, and marked with detached drops of glossy blue, reflecting tints of purple; belly, pale vinaceous brown, becoming dark cinereous towards the vent, where the feathers are bordered with white; wing quills, dusky outwardly, and at the tips; lower sides, and whole interior vanes, a fine red chestnut, which shews itself a little below their coverts; tail, rounded, consisting of twelve feathers, the two middle

ones, cinereous brown, the rest, black, tipped and edged with white; legs and feet, yellow.

The female has the back and tail-coverts of a mouse colour, with little or none of the vinaceous tint on the breast and throat, nor any of the light blue on the hind head; the throat is speckled with dull white, pale clay colour, and dusky; sides of the neck, the same, the plumage strongly defined; breast, cinereous brown, slightly tintured with purple; scapulars, marked with large drops of a dark purplish blood colour, reflecting tints of blue; rest of the plumage, nearly the same as that of the male.

AMERICAN ORNITHOLOGY.

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ORDER III.

GALLINÆ, LINNÆUS.

FAMILY XVI.

GALLINACEI, ILLIGER.

GENUS XXXVII.—*PERDIX*, BRISSON.

SUBGENUS *ORTYX*, STEPHENS.

190. *PERDIX VIRGINIANA*, LATHAM AND WILSON.

QUAIL, OR PARTRIDGE.

WILSON, PLATE XLVII. FIG. II. MALE. — EDINBURGH COLLEGE MUSEUM.

THIS well known bird is a general inhabitant of North America, from the northern parts of Canada and Nova Scotia, in which latter place it is said to be migratory, to the extremity of the peninsula of Florida; and was seen in the neighbourhood of the Great Osage village, in the interior of Louisiana. They are numerous in Kentucky and Ohio; Mr Pennant remarks, that they have been lately introduced into the island of Jamaica, where they appear to thrive greatly, breeding in that warm climate twice in the year. Captain Henderson mentions them as being plenty near the Balize, at the Bay of Honduras. They rarely frequent the forest, and are most numerous in the vicinity of well cultivated plantations, where grain is in plenty. They, however, occasionally seek shelter in the woods, perching on the branches, or secreting themselves among the brushwood; but are found most usually in open fields, or along fences sheltered by thickets of briers. Where they are not too much persecuted by the sportsmen, they become almost half domesticated; approach the barn, particularly in winter, and sometimes, in that severe season, mix with the poultry to glean up a subsistence. They remain with us the whole year, and often suffer extremely by long, hard winters, and deep snows. At such times, the arts of man combine with the inclemency of the season for their destruction. To the ravages of

the gun, are added others of a more insidious kind: traps are placed on almost every plantation, in such places as they are known to frequent. These are formed of lath, or thinly split sticks, somewhat in the shape of an obtuse cone, laced together with cord, having a small hole at top, with a sliding lid, to take out the game by. This is supported by the common figure 4 trigger; and grain is scattered below and leading to the place. By this contrivance, ten or fifteen have sometimes been taken at a time. These are sometimes brought alive to market, and occasionally bought up by sportsmen, who, if the season be very severe, sometimes preserve and feed them till spring, when they are humanely turned out to their native fields again, to be put to death at some future time *secundum artem*. Between the months of August and March, great numbers of these birds are brought to the market of Philadelphia, where they are sold from twelve to eighteen cents a-piece.

The quail begins to build early in May. The nest is made on the ground, usually at the bottom of a thick tuft of grass, that shelters and conceals it. The materials are leaves and fine dry grass in considerable quantity. It is well covered above, and an opening left on one side for entrance. The female lays from fifteen to twenty-four eggs, of a pure white, without any spots. The time of incubation has been stated to me, by various persons, at four weeks, when the eggs were placed under the domestic hen. The young leave the nest as soon as they are freed from the shell, and are conducted about in search of food by the female; are guided by her voice, which at that time resembles the twittering of young chickens, and sheltered by her wings, in the same manner as those of the domestic fowl; but with all that secrecy and precaution for their safety, which their helplessness and greater danger require. In this situation, should the little timid family be unexpectedly surprised, the utmost alarm and consternation instantly prevail. The mother throws herself in the path, fluttering along, and beating the ground with her

wings, as if sorely wounded; using every artifice she is master of to entice the passenger in pursuit of herself, uttering at the same time certain peculiar notes of alarm, well understood by the young, which dive separately amongst the grass, and secrete themselves till the danger is over; and the parent, having decoyed the pursuer to a safe distance, returns, by a circuitous route, to collect and lead them off. This well known manœuvre, which nine times in ten is successful, is honourable to the feelings and judgment of the bird, but a severe satire on man. The affectionate mother, as if sensible of the avaricious cruelty of his nature, tempts him with a larger prize, to save her more helpless offspring; and pays him, as avarice and cruelty ought always to be paid, with mortification and disappointment.

The eggs of the quail have been frequently placed under the domestic hen, and hatched and reared with equal success as her own; though, generally speaking, the young partridges, being more restless and vagrant, often lose themselves, and disappear. The hen ought to be a particular good nurse, not at all disposed to ramble, in which case they are very easily raised. Those that survive, acquire all the familiarity of common chickens; and there is little doubt that, if proper measures were taken, and persevered in for a few years, they might be completely domesticated. They have been often kept during the first season, and through the whole of the winter, but have uniformly deserted in the spring. Two young partridges that were brought up by a hen, when abandoned by her, associated with the cows, which they regularly followed to the fields, returned with them when they came home in the evening, stood by them while they were milked, and again accompanied them to the pasture. These remained during the winter, lodging in the stable, but, as soon as spring came, they disappeared. Of this fact, I was informed by a very respectable lady, by whom they were particularly observed.

It has been frequently asserted to me, that the quail

lay occasionally in each other's nests. Though I have never myself seen a case of this kind, I do not think it altogether improbable, from the fact, that they have often been known to drop their eggs in the nest of the common hen, when that happened to be in the fields, or at a small distance from the house. The two partridges above mentioned were raised in this manner; and it was particularly remarked by the lady who gave me the information, that the hen sat for several days after her own eggs were hatched, until the young quails made their appearance.

The partridge, on her part, has sometimes been employed to hatch the eggs of the common domestic hen. A friend of mine, who himself made the experiment, informs me, that, of several hen's eggs which he substituted in place of those of the partridge, she brought out the whole; and that, for several weeks, he occasionally surprised her, in various parts of the plantation, with her brood of chickens; on which occasions she exhibited all that distressful alarm, and practised her usual manœuvres for their preservation. Even after they were considerably grown, and larger than the partridge herself, she continued to lead them about; but, though their notes or call were those of common chickens, their manners had all the shyness, timidity, and alarm of young partridges; running with great rapidity, and squatting in the grass exactly in the manner of the partridge. Soon after this, they disappeared, having probably been destroyed by dogs, by the gun, or by birds of prey. Whether the domestic fowl might not by this method be very soon brought back to its original savage state, and thereby supply another additional subject for the amusement of the sportsman, will scarcely admit of a doubt. But the experiment, in order to secure its success, would require to be made in a quarter of the country less exposed than ours to the ravages of guns, traps, dogs, and the deep snows of winter, that the new tribe might have full time to become completely naturalized, and well fixed in all their native habits.

About the beginning of September, the quails being now nearly full grown, and associated in flocks, or coveys, of from four or five to thirty, afford considerable sport to the gunner. At this time the notes of the male are most frequent, clear, and loud. His common call consists of two notes, with sometimes an introductory one, and is similar to the sound produced by pronouncing the words "Bob White." This call may be easily imitated by whistling, so as to deceive the bird itself, and bring it near. While uttering this, he is usually perched on a rail of the fence, or on a low limb of an apple tree, where he will sometimes sit, repeating, at short intervals, "Bob White," for half an hour at a time. When a covey are assembled in a thicket, or corner of a field, and about to take wing, they make a low twittering sound, not unlike that of young chickens; and, when the covey is dispersed, they are called together again by a loud and frequently repeated note, peculiarly expressive of tenderness and anxiety.

The food of the partridge consists of grain, seeds, insects, and berries of various kinds. Buckwheat and Indian corn are particular favourites. In September and October, the buckwheat fields afford them an abundant supply, as well as a secure shelter. They usually roost at night in the middle of a field on high ground; and from the circumstance of their dung being often found in such places in one round heap, it is generally conjectured that they roost in a circle, with their heads outwards, each individual in this position forming a kind of guard to prevent surprise. They also continue to lodge for several nights in the same spot.

The partridge, like all the rest of the gallinaceous order, flies with a loud whirring sound, occasioned by the shortness, concavity, and rapid motion of its wings, and the comparative weight of its body. The steadiness of its horizontal flight, however, renders it no difficult mark to the sportsman, particularly when assisted by his sagacious pointer. The flesh of this bird

is peculiarly white, tender, and delicate, unequalled, in these qualities, by that of any other of its genus in the United States.

The quail, as it is called in New England, or the partridge, as in Pennsylvania, is nine inches long, and fourteen inches in extent; the bill is black; line over the eye, down the neck, and whole chin, pure white, bounded by a band of black, which descends and spreads broadly over the throat; the eye is dark hazel; crown, neck, and upper part of the breast, red brown; sides of the neck, spotted with white and black on a reddish brown ground; back, scapulars, and lesser coverts, red brown, intermixed with ash, and sprinkled with black; tertials, edged with yellowish white; wings, plain dusky; lower part of the breast and belly, pale yellowish white, beautifully marked with numerous curving spots or arrow-heads of black; tail, ash, sprinkled with reddish brown; legs, very pale ash.

The female differs in having the chin and sides of the head yellowish brown, in which dress it has been described as a different kind. There is, however, only one species of quail at present known within the United States.

GENUS XXXVIII. — *TETRAO*, LINNÆUS.

SUBGENUS I. — *BONASIA*, BONAPARTE.

191. *TETRAO UMBELLUS*, LINNÆUS AND WILSON.

RUFFED GROUSE.

WILSON, PLATE. XLIX. — EDINBURGH COLLEGE MUSEUM.

THIS is the partridge of the Eastern States, and the pheasant of Pennsylvania and the southern districts.

This elegant species is well known in almost every quarter of the United States, and appears to inhabit a very extensive range of country. It is common at Moose Fort, on Hudson's Bay, in lat. 51°; is frequent in the upper parts of Georgia; very abundant in Kentucky and the Indiana territory; and was found

by Captains Lewis and Clarke in crossing the great range of mountains that divide the waters of the Columbia and Missouri, more than three thousand miles, by their measurement, from the mouth of the latter. Its favourite places of resort are high mountains, covered with the balsam pine, hemlock, and such like evergreens. Unlike the pinnated grouse, it always prefers the woods; is seldom or never found in open plains; but loves the pine sheltered declivities of mountains near streams of water. This great difference of disposition in two species, whose food seems to be nearly the same, is very extraordinary. In those open plains called the Barrens of Kentucky, the pinnated grouse was seen in great numbers, but none of the ruffed; while, in the high groves with which that singular tract of country is interspersed, the latter, or pheasant, was frequently met with; but not a single individual of the former.

The native haunts of the pheasant being a cold, high, mountainous and woody country, it is natural to expect that, as we descend from thence to the sea shores, and the low, flat, and warm climate of the Southern States, these birds should become more rare; and such indeed is the case. In the lower parts of Carolina, Georgia, and Florida, they are very seldom observed; but, as we advance inland to the mountains, they again make their appearance. In the lower parts of New Jersey, we indeed occasionally meet with them; but this is owing to the more northerly situation of the country; for even here they are far less numerous than among the mountains.

Dr Turton, and several other English writers, have spoken of a long-tailed grouse, said to inhabit the back parts of Virginia, which can be no other than the present species, there being, as far as I am acquainted, only these two, the ruffed and pinnated grouse, found native within the United States.

The manners of the pheasant are solitary; they are seldom found in coveys of more than four or five together, and more usually in pairs, or singly. They

leave their sequestered haunts in the woods early in the morning, and seek the path or road, to pick up gravel, and glean among the droppings of the horses. In travelling among the mountains that bound the Susquehanna, I was always able to furnish myself with an abundant supply of these birds every morning without leaving the path. If the weather be foggy, or lowering, they are sure to be seen in such situations. They generally move along with great stateliness. The drumming, as it is usually called, of the pheasant, is another singularity of this species. This is performed by the male alone. In walking through solitary woods, frequented by these birds, a stranger is surprised by suddenly hearing a kind of thumping very similar to that produced by striking two full-blown ox-bladders together, but much louder; the strokes at first are slow and distinct; but gradually increase in rapidity, till they run into each other, resembling the rumbling sound of very distant thunder, dying away gradually on the ear. After a few minutes' pause, this is again repeated, and, in a calm day, may be heard nearly half a mile off. This drumming is most common in spring, and is the call of the cock to his favourite female. It is produced in the following manner: The bird, standing on an old prostrate log, generally in a retired and sheltered situation, lowers his wings, erects his expanded tail, contracts his throat, elevates the two tufts of feathers on the neck, and inflates his whole body, something in the manner of the turkey cock, strutting and wheeling about with great stateliness. After a few manœuvres of this kind, he begins to strike with his stiffened wings in short and quick strokes, which become more and more rapid until they run into each other, as has been already described. This is most common in the morning and evening, though I have heard them drumming at all hours of the day. By means of this, the gunner is led to the place of his retreat; though, to those unacquainted with the sound, there is great deception in the supposed distance, it generally appearing to be much nearer than it really is.

The pheasant begins to pair in April, and builds its nest early in May. This is placed on the ground, at the root of a bush, old log, or other sheltered and solitary situation, well surrounded with withered leaves. Unlike that of the quail, it is open above, and is usually composed of dry leaves and grass. The eggs are from nine to fifteen in number, of a brownish white, without any spots, and nearly as large as those of a pullet. The young leave the nest as soon as hatched, and are directed by the cluck of the mother, very much in the manner of the common hen. On being surprised, she exhibits all the distress and affectionate manœuvres of the quail, and of most other birds, to lead you away from the spot. I once started a hen pheasant with a single young one, seemingly only a few days old; there might have been more, but I observed only this one. The mother fluttered before me for a moment; but, suddenly darting towards the young one, seized it in her bill, and flew off along the surface through the woods, with great steadiness and rapidity, till she was beyond my sight, leaving me in great surprise at the incident. I made a very close and active search around the spot for the rest, but without success. Here was a striking instance of something more than what is termed blind instinct, in this remarkable deviation from her usual manœuvres when she has a numerous brood. It would have been impossible for me to have injured this affectionate mother, who had exhibited such an example of presence of mind, reason, and sound judgment, as must have convinced the most bigoted advocates of mere instinct. To carry off a whole brood in this manner at once would have been impossible, and to attempt to save one at the expense of the rest would be unnatural. She therefore usually takes the only possible mode of saving them in that case, by decoying the person in pursuit of herself, by such a natural imitation of lameness as to impose on most people. But here, in the case of a single solitary young one, she instantly altered her plan, and adopted the most simple and effectual means for its preservation.

The pheasant generally springs within a few yards, with a loud whirring noise, and flies with great vigour through the woods, beyond reach of view, before it alights. With a good dog, however, they are easily found; and at some times exhibit a singular degree of infatuation, by looking down from the branches where they sit, on the dog below, who, the more noise he keeps up, seems the more to confuse and stupify them, so that they may be shot down, one by one, till the whole are killed, without attempting to fly off. In such cases those on the lower limbs must be taken first; for, should the upper ones be first killed, in their fall they alarm those below, who immediately fly off. In deep snows they are usually taken in traps, commonly dead traps, supported by a figure 4 trigger. At this season, when suddenly alarmed, they frequently dive into the snow, particularly when it has newly fallen, and, coming out at a considerable distance, again take wing. They are pretty hard to kill, and will often carry off a large load to the distance of two hundred yards, and drop down dead. Sometimes, in the depth of winter, they approach the farm house, and lurk near the barn, or about the garden. They have also been often taken young, and tamed, so as to associate with the fowls; and their eggs have frequently been hatched under the common hen; but these rarely survive until full grown. They are exceedingly fond of the seeds of grapes; occasionally eat ants, chestnuts, blackberries, and various vegetables. Formerly they were numerous in the immediate vicinity of Philadelphia; but, as the woods were cleared and population increased, they retreated to the interior. At present there are very few to be found within several miles of the city, and those only singly, in the most solitary and retired woody recesses.

The pheasant is in best order for the table in September and October. At this season they feed chiefly on whortleberries, and the little red aromatic partridgeberries; the last of which give their flesh a peculiar delicate flavour. With the former our mountains are literally covered from August to November; and these

constitute, at that season, the greater part of their food. During the deep snows of winter, they have recourse to the buds of alder, and the tender buds of the laurel. I have frequently found their crops distended with a large handful of these latter alone; and it has been confidently asserted, that, after having fed for some time on the laurel buds, their flesh becomes highly dangerous to eat of, partaking of the poisonous qualities of the plant. The same has been asserted of the flesh of the deer, when, in severe weather and deep snows, they subsist on the leaves and bark of the laurel. Though I have myself ate freely of the flesh of the pheasant, after emptying it of large quantities of laurel buds, without experiencing any bad consequences, yet, from the respectability of those, some of them eminent physicians, who have particularized cases in which it has proved deleterious, and even fatal, I am inclined to believe, that, in certain cases, where this kind of food has been long continued, and the birds allowed to remain undrawn for several days, until the contents of the crop and stomach have had time to diffuse themselves through the flesh, as is too often the case, it may be unwholesome and even dangerous. Great numbers of these birds are brought to our markets, at all times, during fall and winter; some of which are brought from a distance of more than a hundred miles, and have been probably dead a week or two, unpicked and undrawn, before they are purchased for the table. Regulations, prohibiting them from being brought to market unless picked and drawn, would, very probably, be a sufficient security from all danger. At these inclement seasons, however, they are generally lean and dry; and, indeed, at all times, their flesh is far inferior to that of the quail, or of the pinnated grouse. They are usually sold, in Philadelphia market, at from three quarters of a dollar to a dollar and a quarter a-pair, and sometimes higher.

The pheasant, or partridge of New England, is eighteen inches long, and twenty-three inches in extent; bill, a horn colour, paler below; eye, reddish

hazel, immediately above which is a small spot of bare skin, of a scarlet colour; crested; head and neck, variegated with black, red brown, white, and pale brown; sides of the neck, furnished with a tuft of large black feathers, twenty-nine or thirty in number, which it occasionally raises; this tuft covers a large space of the neck destitute of feathers; body above, a bright rust colour, marked with oval spots of yellowish white, and sprinkled with black; wings, plain olive brown, exteriorly edged with white, spotted with olive; the tail is rounding, extends five inches beyond the tips of the wings, is of a bright reddish brown, beautifully marked with numerous waving transverse bars of black, is also crossed by a broad band of black, within half an inch of the tip, which is bluish white, thickly sprinkled and specked with black; body below, white, marked with large blotches of pale brown; the legs are covered half way to the feet with hairy down of a brownish white colour; legs and feet, pale ash; toes, pectinated along the sides; the two exterior ones joined at the base, as far as the first joint, by a membrane; vent, yellowish rust colour.

The female, and young birds, differ in having the ruff or tufts of feathers on the neck of a dark brown colour; as well as the bar of black on the tail inclining much to the same tint.

SUBGENUS II. — *TETRAO*, VIEILL.

192. *TETRAO CUPIDO*, LINN. AND WILS. — PINNATED GROUSE.

WILSON, PLATE XXVII. FIG. 1. MALE.

BEFORE I enter on a detail of the observations which I have myself personally made on this singular species, I shall lay before the reader a comprehensive and very circumstantial memoir on the subject, communicated to me by the writer, Dr Samuel L. Mitchell, of New York, whose exertions, both in his public and private capacity, in behalf of science, and in elucidating the natural history of his country, are well known, and highly honourable to his distinguished situation and

abilities. That peculiar tract, generally known by the name of the Brushy Plains of Long Island, having been, for time immemorial, the resort of the bird now before us, some account of this particular range of country seemed necessarily connected with the subject, and has, accordingly, been obligingly attended to by the learned professor.

" New York, Sept. 19, 1810.

" DEAR SIR,—It gives me much pleasure to reply to your letter of the 12th instant, asking of me information concerning the grouse of Long Island.

" The birds which are known there emphatically by the name of grouse, inhabit chiefly the forest range. This district of the island may be estimated as being between forty and fifty miles in length, extending from Bethphage, in Queen's County, to the neighbourhood of the court-house, in Suffolk. Its breadth is not more than six or seven. For, although the island is bounded by the Sound separating it from Connecticut on the north, and by the Atlantic Ocean on the south, there is a margin of several miles, on each side, in the actual possession of human beings.

" The region in which these birds reside lies mostly within the towns of Oysterbay, Huntington, Islip, Smithtown, and Brookhaven; though it would be incorrect to say, that they were not to be met with sometimes in Riverhead and Southampton. Their territory has been defined by some sportsmen, as situated between Hempstead Plain on the west, and Shinnecock Plain on the east.

" The more popular name for them is heath-hens. By this they are designated in the act of our legislature for the preservation of them and of other game. I well remember the passing of this law: The bill was introduced by Cornelius J. Bogert, Esq. a member of the Assembly from the city of New York. It was in the month of February, 1791, the year when, as a representative from my native county of Queens, I sat, for the first time, in a legislature.

" The statute declares, among other things, that the person who shall kill any heath-hen within the counties of Suffolk or Queens, between the 1st day of April and the 5th day of October, shall, for every such offence, forfeit and pay the sum of two dollars and a half, to be recovered, with costs of suit, by any person who shall prosecute for the same, before any justice of the peace, in either of the said counties : the one half to be paid to the plaintiff, and the other half to the overseers of the poor ; and, if any heath-hen, so killed, shall be found in the possession of any person, he shall be deemed guilty of the offence, and suffer the penalty. But it is provided, that no defendant shall be convicted, unless the action shall be brought within three months after the violation of the law.*

" The country selected by these exquisite birds requires a more particular description. You already understand it to be the ridland and interior district of the island. The soil of this island is, generally speaking, a sandy or gravelly loam. In the parts less adapted to tillage, it is more of an unmixed sand. This is so much the case, that the shore of the beaches beaten by the ocean affords a material from which glass has been prepared. Silicious grains and particles predominate in the region chosen by the heath-hens or grouse. Here there are no rocks, and very few stones of any kind. This sandy tract appears to be a dereliction of the ocean, but is, nevertheless, not doomed to total sterility. Many thousand acres have been reclaimed from the wild state, and rendered very productive to man ; and within the towns frequented by these birds

* The doctor has probably forgotten a circumstance of rather ludicrous kind that occurred at the passing of this law, and which was, not long ago, related to me by my friend Mr Gardiner, of Gardiner's Island, Long Island. The bill was entitled, " An Act for the preservation of heath-hen and other game." The honours chairman of the Assembly, no sportsman, I suppose, read the title " An Act for the preservation of *Heathen* and other game !" which seemed to astonish the northern members, who could not see the propriety of preserving *Indians*, or any other *Heathen*.

there are numerous inhabitants, and among them some of our most wealthy farmers.

“ But within the same limits, there are also tracts of great extent where men have no settlements, and others where the population is spare and scanty. These are, however, by no means, naked deserts: they are, on the contrary, covered with trees, shrubs, and smaller plants. The trees are mostly pitch-pines of inferior size, and white oaks of a small growth. They are of a quality very fit for burning. Thousands of cords of both sorts of fire-wood are annually exported from these barrens. Vast quantities are occasionally destroyed by the fires which, through carelessness or accident, spread far and wide through the woods. The city of New York will probably, for ages, derive fuel from the grouse grounds. The land, after having been cleared, yields to the cultivator poor crops. Unless, therefore, he can help it by manure, the best disposition is to let it grow up to forest again. Experience has proved, that, in a term of forty or fifty years, the new growth of timber will be fit for the axe. Hence it may be perceived, that the reproduction of trees, and the protection they afford to heath-hens, would be perpetual, or, in other words, not circumscribed by any calculable time, provided the persecutors of the latter would be quiet.

“ Beneath these trees grow more dwarfish oaks, overspreading the surface, sometimes with here and there a shrub, and sometimes a thicket. These latter are from about two to ten feet in height. Where they are the principal product, they are called, in common conversation, *brush*, as the flats on which they grow are termed *brushy plains*. Among this hardy shrubbery may frequently be seen the creeping vegetable named the partridgeberry, covering the sand with its lasting verdure. In many spots, the plant which produces hurtleberries sprouts up among the other natives of the soil. These are the more important; though I ought to inform you, that the hills reaching from east to west, and forming the spine of the island, support kalmias, hickories, and many other species; that I have seen azalias

and andromedas, as I passed through the wilderness ; and that, where there is water, cranberries, alders, beeches, maples, and other lovers of moisture, take their stations.

“ This region, situated thus between the more thickly inhabited strips or belts on the north and south sides of the island, is much travelled by wagons, and intersected accordingly, by a great number of paths.

“ As to the birds themselves, the information I possess scarcely amounts to an entire history. You, who know the difficulty of collecting facts, will be the most ready to excuse my deficiencies. The information I give you is such as I rely on. For the purpose of gathering the materials, I have repeatedly visited their haunts. I have likewise conversed with several men who were brought up at the precincts of the grouse-ground, who had been witnesses of their habits and manners, who were accustomed to shoot them for the market, and who have acted as guides to gentlemen who go there for sport.

“ *Bull.*—An adult grouse, when fat, weighs as much as a barn door fowl of moderate size, or about three pounds avoirdupois. But the eagerness of the sportsman is so great, that a large proportion of those they kill are but a few months old, and have not attained their complete growth. Notwithstanding the protection of the law, it is very common to disregard it. The retired nature of the situation favours this. It is well understood that an arrangement can be made which will blind and silence informers, and that the gun is fired with impunity for weeks before the time prescribed in the act. To prevent this unfair and unlawful practice, an association was formed a few years ago, under the title of the *Brush Club*, with the express and avowed intention of enforcing the game law. Little benefit, however, has resulted from its laudable exertions ; and under a conviction that it was impossible to keep the poachers away, the society declined. At present the statute may be considered as operating very little towards their preservation. Grouse, especially full grown

ones, are becoming less frequent. Their numbers are gradually diminishing; and, assailed as they are on all sides, almost without cessation, their scarcity may be viewed as foreboding their eventual extermination.

“*Price.*—Twenty years ago, a brace of grouse could be bought for a dollar. They now cost from three to five dollars. A handsome pair seldom sells in the New York market now-a-days for less than thirty shillings, [three dollars, seventy-five cents,] nor for more than forty, [five dollars.] These prices indicate, indeed, the depreciation of money and the luxury of eating. They prove, at the same time, that grouse are become rare; and this fact is admitted by every man who seeks them, whether for pleasure or for profit.

“*Amours.*—The season for pairing is in March, and the breeding time is continued through April and May. Then the male grouse distinguishes himself by a peculiar sound. When he utters it, the parts about the throat are sensibly inflated and swelled. It may be heard on a still morning for three or more miles; some say they have perceived it as far as five or six. This noise is a sort of ventriloquism. It does not strike the ear of a bystander with much force, but impresses him with the idea, though produced within a few rods of him, of a voice a mile or two distant. This note is highly characteristic. Though very peculiar, it is termed *tooting*, from its resemblance to the blowing of a conch or horn from a remote quarter. The female makes her nest on the ground, in recesses very rarely discovered by men. She usually lays from ten to twelve eggs. Their colour is of a brownish, much resembling those of a guinea hen. When hatched, the brood is protected by her alone. Surrounded by her young, the mother bird exceedingly resembles a domestic hen and chickens. She frequently leads them to feed in the roads crossing the woods, on the remains of maize and oats contained in the dung dropped by the travelling horses. In that employment they are often surprised by the passengers. On such occasions the dam utters a cry of alarm. The little ones immediately scamper to the brush; and while

they are skulking into places of safety, their anxious parent beguiles the spectator by drooping and fluttering her wings, limping along the path, rolling over in the dirt, and other pretences of inability to walk or fly.

“ *Food.*—A favourite article of their diet is the *heath-hen plum*, or partridgeberry before mentioned. They are fond of hurtleberries and cranberries. Worms and insects of several kinds are occasionally found in their crops. But, in the winter, they subsist chiefly on acorns, and the buds of trees which have shed their leaves. In their stomachs have been sometimes observed the leaves of a plant supposed to be a winter green; and it is said, when they are much pinched, they betake themselves to the buds of the pine. In convenient places, they have been known to enter cleared fields, and regale themselves on the leaves of clover; and old gunners have reported, that they have been known to trespass upon patches of buckwheat, and pick up the grains.

“ *Migration.*—They are stationary, and never known to quit their abode. There are no facts shewing in them any disposition to migration. On frosty mornings, and during snows, they perch on the upper branches of pine trees. They avoid wet and swampy places, and are remarkably attached to dry ground. The low and open brush is preferred to high shrubbery and thickets. Into these latter places, they fly for refuge when closely pressed by the hunters; and here, under a stiff and impenetrable cover, they escape the pursuit of dogs and men. Water is so seldom met with on the true grouse ground, that it is necessary to carry it along for the pointers to drink. The flights of grouse are short, but sudden, rapid, and whirring. I have not heard of any success in taming them. They seem to resist all attempts at domestication. In this, as well as in many other respects, they resemble the quail of New York, or the partridge of Pennsylvania.

“ *Manners.*—During the period of mating, and while the females are occupied in incubation, the males have a practice of assembling, principally by themselves.

To some select and central spot where there is very little underwood, they repair from the adjoining district. From the exercises performed there, this is called a *scratching place*. The time of meeting is the break of day. As soon as the light appears, the company assembles from every side, sometimes to the number of forty or fifty. When the dawn is past, the ceremony begins by a low tooting from one of the cocks. This is answered by another. They then come forth one by one from the bushes, and strut about with all the pride and ostentation they can display. Their necks are incurvated; the feathers on them are erected into a sort of ruff; the plumes of their tails are expanded like fans; they strut about in a style resembling, as nearly as small may be illustrated by great, the pomp of the turkey cock. They seem to vie with each other in stateliness; and, as they pass each other, frequently cast looks of insult, and utter notes of defiance. These are the signals for battles. They engage with wonderful spirit and fierceness. During these contests, they leap a foot or two from the ground, and utter a cackling, screaming, and discordant cry.

“ They have been found in these places of resort even earlier than the appearance of light in the east. This fact has led to the belief that a part of them assemble over night. The rest join them in the morning. This leads to the farther belief, that they roost on the ground. And the opinion is confirmed by the discovery of little rings of dung, apparently deposited by a flock which had passed the night together. After the appearance of the sun, they disperse.

“ These places of exhibition have been often discovered by the hunters; and a fatal discovery it has been for the poor grouse. Their destroyers construct for themselves lurking holes made of pine branches, called *bough houses*, within a few yards of the parade. Hither they repair with their fowling-pieces, in the latter part of the night, and wait the appearance of the birds. Watching the moment when two are proudly eyeing each other, or engaged in battle, or when a

greater number can be seen in a range, they pour on them a destructive charge of shot. This annoyance has been given in so many places, and to such extent, that the grouse, after having been repeatedly disturbed, are afraid to assemble. On approaching the spot to which their instinct prompts them, they perch on the neighbouring trees, instead of alighting at the scratching-place. And it remains to be observed, how far the restless and tormenting spirit of the marksmen may alter the native habits of the grouse, and oblige them to betake themselves to new ways of life.

“ They commonly keep together in coveys, or packs, as the phrase is, until the pairing season. A full pack consists of course of ten or a dozen. Two packs have been known to associate. I lately heard of one whose number amounted to twenty-two. They are so unapt to be startled, that a hunter, assisted by a dog, has been able to shoot almost a whole pack, without making any of them take wing. In like manner, the men lying in concealment near the scratching places, have been known to discharge several guns before either the report of the explosion, or the sight of their wounded and dead fellows, would rouse them to flight. It has farther been remarked, that when a company of sportsmen have surrounded a pack of grouse, the birds seldom or never rise upon their pinions while they are encircled; but each runs along until it passes the person that is nearest, and then flutters off with the utmost expedition.

“ As you have made no inquiry of me concerning the ornithological character of these birds, I have not mentioned it, presuming that you are already perfectly acquainted with their classification and description. In a short memoir written in 1803, and printed in the eighth volume of the *Medical Repository*, I ventured an opinion as to the genus and species. Whether I was correct is a technical matter, which I leave you to adjust. I am well aware that European accounts of our productions are often erroneous, and require revision and amendment. This you must perform.

For me it remains to repeat my joy at the opportunity your invitation has afforded me to contribute somewhat to your elegant work, and at the same time to assure you of my earnest hope that you may be favoured with ample means to complete it.

“SAMUEL L. MITCHELL.”

Duly sensible of the honour of the foregoing communication, and grateful for the good wishes with which it is concluded, I shall now, in farther elucidation of the subject, subjoin a few particulars properly belonging to my own department.

It is somewhat extraordinary that the European naturalists, in their various accounts of our different species of grouse, should have said little or nothing of the one now before us, which, in its voice, manners, and peculiarity of plumage, is the most singular, and, in its flesh, the most excellent, of all those of its tribe that inhabit the territory of the United States. It seems to have escaped Catesby during his residence and different tours through this country, and it was not till more than twenty years after his return to England, viz. in 1743, that he first saw some of these birds, as he informs us, at Cheswick, the seat of the Earl of Wilmington. His lordship said they came from America; but from what particular part, could not tell.* Buffon has confounded it with the ruffed grouse, the common partridge of New England, or pheasant of Pennsylvania (*tetrao umbellus*); Edwards and Pennant have, however, discovered that it is a different species; but have said little of its note, of its flesh, or peculiarities; for, alas! there was neither voice, nor action, nor delicacy of flavour in the shrunk and decayed skin from which the former took his figure, and the latter his description; and to this circumstance must be attributed the barrenness and defects of both.

This rare bird, though an inhabitant of different and very distant districts of North America, is extremely

* CATESBY, *Car.* p. 101, App.

particular in selecting his place of residence; pitching only upon those tracts whose features and productions correspond with his modes of life, and avoiding immense intermediate regions that he never visits. Open dry plains, thinly interspersed with trees, or partially overgrown with shrub oak, are his favourite haunts. Accordingly we find these birds on the grouse plains of New Jersey, in Burlington county, as well as on the brushy plains of Long Island; among the pines and shrub oaks of Pocano, in Northampton county, Pennsylvania; over the whole extent of the Barrens of Kentucky; on the luxuriant plains and prairies of the Indiana territory, and Upper Louisiana; and, according to the information of the late Governor Lewis, on the vast and remote plains of the Columbia river: in all these places preserving the same singular habits.

Their predilection for such situations will be best accounted for by considering the following facts and circumstances:—First, their mode of flight is generally direct, and laborious, and ill calculated for the labyrinth of a high and thick forest, crowded and intersected with trunks and arms of trees, that require continual angular evolution of wing, or sudden turnings, to which they are, by no means, accustomed. I have always observed them to avoid the high timbered groves that occur here and there in the Barrens. Connected with this fact, is a circumstance related to me by a very respectable inhabitant of that country, viz. that one forenoon a cock grouse struck the stone chimney of his house with such force, as instantly to fall dead to the ground.

Secondly, their known dislike of ponds, marshes, or watery places, which they avoid on all occasions, drinking but seldom, and, it is believed, never from such places. Even in confinement this peculiarity has been taken notice of. While I was in the State of Tennessee, a person living within a few miles of Nashville had caught an old hen grouse in a trap; and, being obliged to keep her in a large cage, as she struck and abused the rest of the poultry, he remarked that she never drank, and that she even avoided that quarter of the cage where

the cup containing the water was placed. Happening, one day, to let some water fall on the cage, it trickled down in drops along the bars, which the bird no sooner observed, than she eagerly picked them off, drop by drop, with a dexterity that shewed she had been habituated to this mode of quenching her thirst; and, probably, to this mode only, in those dry and barren tracts, where, except the drops of dew, and drops of rain, water is very rarely to be met with. For the space of a week he watched her closely, to discover whether she still refused to drink; but, though she was constantly fed on Indian corn, the cup and water still remained untouched and untasted. Yet no sooner did he again sprinkle water on the bars of the cage, than she eagerly and rapidly picked them off as before.

The last, and, probably, the strongest inducement to their preferring these plains, is the small acorn of the shrub oak; the strawberries, huckleberries, and partridgeberries, with which they abound, and which constitute the principal part of the food of these birds. These brushy thickets also afford them excellent shelter, being almost impenetrable to dogs or birds of prey.

In all these places where they inhabit, they are, in the strictest sense of the word, resident; having their particular haunts, and places of rendezvous, (as described in the preceding account,) to which they are strongly attached. Yet they have been known to abandon an entire tract of such country, when, from whatever cause it might proceed, it became again covered with forest. A few miles south of the town of York, in Pennsylvania, commences an extent of country, formerly of the character described, now chiefly covered with wood, but still retaining the name of Barrens. In the recollection of an old man born in that part of the country, this tract abounded with grouse. The timber growing up, in progress of years, these birds totally disappeared; and, for a long period of time, he had seen none of them, until, migrating with his family to Kentucky, on entering the Barrens, he, one morning, recognized the well known music of his old acquaintance, the grouse;

which, he assures me, are the very same with those he had known in Pennsylvania.

But what appears to me the most remarkable circumstance relative to this bird, is, that not one of all those writers who have attempted its history, have taken the least notice of two extraordinary bags of yellow skin which mark the neck of the male, and which constitute so striking a peculiarity. These appear to be formed by an expansion of the gullet, as well as of the exterior skin of the neck, which, when the bird is at rest, hangs in loose, pendulous, wrinkled folds, along the side of the neck, the supplemental wings, at the same time, as well as when the bird is flying, lying along the neck. But when these bags are inflated with air, in breeding time, they are equal in size, and very much resemble in colour, a middle sized fully ripe orange. By means of this curious apparatus, which is very observable several hundred yards off, he is enabled to produce the extraordinary sound mentioned above, which, though it may easily be imitated, is yet difficult to describe by words. It consists of three notes, of the same tone, resembling those produced by the night hawks in their rapid descent; each strongly accented, the last being twice as long as the others. When several are thus engaged, the ear is unable to distinguish the regularity of these triple notes, there being, at such times, one continued bumming, which is disagreeable and perplexing, from the impossibility of ascertaining from what distance, or even quarter, it proceeds. While uttering this, the bird exhibits all the ostentatious gesticulations of a turkey cock; erecting and fluttering his neck wings, wheeling and passing before the female, and close before his fellows, as in defiance. Now and then are heard some rapid cackling notes, not unlike that of a person tickled to excessive laughter; and, in short, one can scarcely listen to them without feeling disposed to laugh from sympathy. These are uttered by the males while engaged in fight, on which occasion they leap up against each other, exactly in the manner of

turkeys, seemingly with more malice than effect. This bumming continues from a little before daybreak to eight or nine o'clock in the morning, when the parties separate to seek for food.

Fresh ploughed fields, in the vicinity of their resorts, are sure to be visited by these birds every morning, and frequently also in the evening. On one of these I counted, at one time, seventeen males; making such a continued sound, as, I am persuaded, might have been heard for more than a mile off. The people of the Barrens informed me, that, when the weather became severe, with snow, they approach the barn and farm house, are sometimes seen sitting on the fences in dozens, mix with the poultry, and glean up the scattered grains of Indian corn, seeming almost half domesticated. At such times, great numbers are taken in traps. No pains, however, or regular plan, has ever been persisted in, as far as I was informed, to domesticate these delicious birds. A Mr Reed, who lives between the Pilot Knobs and Bairdstown, told me, that, a few years ago, one of his sons found a grouse's nest with fifteen eggs, which he brought home, and immediately placed below a hen then sitting, taking away her own. The nest of the grouse was on the ground, under a tussock of long grass, formed with very little art, and few materials; the eggs were brownish white, and about the size of a pullet's. In three or four days the whole were hatched. Instead of following the hen, they compelled her to run after them, distracting her with the extent and diversity of their wanderings; and it was a day or two before they seemed to understand her language, or consent to be guided by her. They were let out to the fields, where they paid little regard to their nurse; and, in a few days, only three of them remained. These became extremely tame and familiar, were most expert fly-catchers; but, soon after, they also disappeared.

The pinnated grouse is nineteen inches long, twenty-seven inches in extent, and, when in good order, weighs about three pounds and a half; the neck is furnished with supplemental wings, each composed of eighteen

feathers, five of which are black, and about three inches long; the rest shorter, also black, streaked laterally with brown, and of unequal lengths; the head is slightly crested; over the eye is an elegant semicircular comb of rich orange, which the bird has the power of raising or relaxing; under the neck wings, are two loose, pendulous, and wrinkled skins, extending along the side of the neck for two-thirds of its length; each of which, when inflated with air, resembles, in bulk, colour, and surface, a middle sized orange; chin, cream coloured; under the eye runs a dark streak of brown; whole upper parts, mottled transversely with black, reddish brown, and white; tail short, very much rounded, and of a plain brownish soot colour; throat, elegantly marked with touches of reddish brown, white, and black; lower part of the breast and belly, pale brown, marked transversely with white; legs, covered to the toes with hairy down of a dirty drab colour; feet, dull yellow; toes, pectinated; vent, whitish; bill, brownish horn colour; eye, reddish hazel. The female is considerably less; of a lighter colour; destitute of the neck wings, the naked yellow skin on the neck, and the semicircular comb of yellow over the eye.

On dissecting these birds, the gizzard was found extremely muscular, having almost the hardness of a stone; the heart remarkably large; the crop was filled with brier knots, containing the larvæ of some insect, quantities of a species of green lichen, small hard seeds, and some grains of Indian corn.

END OF VOLUME SECOND.

EDINBURGH

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